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May, 1955

# SOAP

## *and* Chemical Specialties

In this issue...

Growth in specialties  
ales CSMA surveys show

\* \* \*

versatility of the nonionic  
tergents expands uses

\* \* \*

New item on every call  
boosts supplier's volume

\* \* \*

Safety in aerosols more  
than a matter of chance

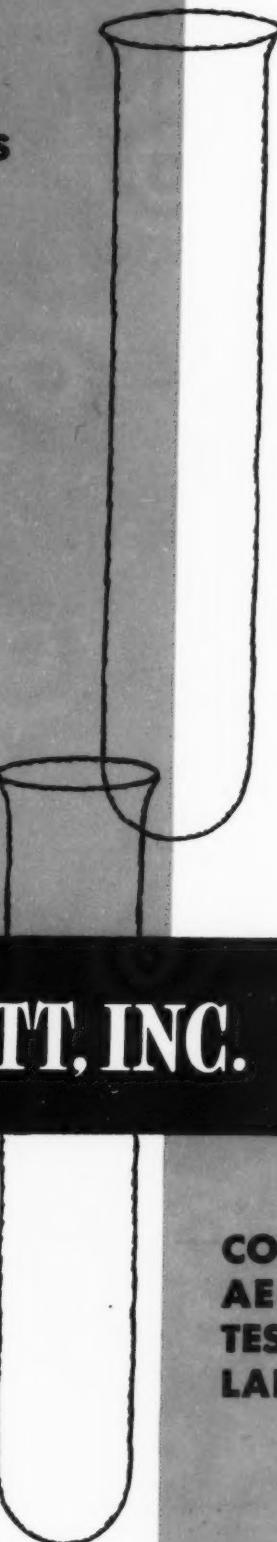


Cover photograph . . . "Whipped Drene" shampoo, Procter & Gamble Co.'s first aerosol product. Four ounce, pink, plastic coated glass bottle by Wheaton Glass Co., it retails for about \$1.00. Packer: Continental Filling Corporation.

-5-

for  
**Perfume Materials**  
that meet your  
product's  
requirements  
and laboratory  
service to assist  
or supplement  
your own—

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for you!"

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LABORATORY**

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*Sensational*



## Liquid Bowl and Porcelain CLEANER • DISINFECTANT

Clean . . . Disinfect . . . Sanitize . . . Deodorize

ALL WASHROOM FIXTURES, IN ONE  
OPERATION WITH ONE PRODUCT!

DIP!

Dip mop into handy, wide-mouth OUT jug. Convenient handle makes it easy to carry. No uninhibited acids to ruin clothing, injure hands. No poison label required. Use on porcelain enamel as well as viterous ware.

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Dab mop on surface to be cleaned and mop thoroughly. After cleaning toilet bowl, flush rings, urinal walls, other hard-to-see areas, check results with OUT "Mirror Card."

DEAD!

OUT kills dangerous disease carrying bacteria. OUT combines bacteria-killing action with penetrating cleaning power, safely working its way into traps and drainage systems. Heavier-than-water OUT settles in these unreachable spots, kills odor-producing algae.

OUT!

Odors go OUT! Dirt, filth go OUT! Rust, iron scale, hard water stains clear OUT . . . fast!

Many bowl cleaners have some of these features . . . but OUT has them all!

### Distributors Like OUT Because:

No poison label is needed! OUT comes in a streamlined package—no freight to pay on wooden crates, no bulky boxes to store. OUT is packed in easy-to-stack cartons. Distributor's name and address as source of supply appears on every jug of OUT!



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**Associated JUST Distributors, Inc.  
c/o FULD BROS., Inc.**

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West Coast Plant: Los Angeles 13, Cal.

\*Reg. applied for.

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### Users Like OUT Because:

One product cleans and disinfects *all* washroom fixtures! Handy, safe-to-use container . . . no rubber gloves or special handling needed! Each carton of OUT contains bowl mops and mirror cards.



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every purpose**

*the new*

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# SOAP

## *and Chemical Specialties*

### CONTENTS

|  |     |
|--|-----|
| In Brief as the Editor Sees It .....                         | 39  |
| As the Reader Sees It .....                                  | 43  |
| "Cashmere Bouquet" — Oldest U. S. Toilet Soap .....          | 45  |
| Nonionics — Versatile Detergents .....                       | 47  |
| By Harold E. Bramston-Cook                                   |     |
| Just to Clean Ultra Modern Lankenau Hospital .....           | 50  |
| By Florence W. Brewer  |     |
| Evaluating Liquid Detergents .....                           | 54  |
| By Louis E. Wells, Jr.                                       |     |
| Packaging Notes .....  | 59  |
| New Products Pictures .....                                  | 64  |
| Dry Filling Equipment .....                                  | 103 |
| CSMA Meets in Chicago .....                                  | 161 |
| Iodine as a Sanitizing Agent .....                           | 164 |
| By Louis Gershenson  |     |
| Biological Testing of Aerosols for Safety .....              | 172 |
| By A. Haldane Gee and George W. Fiero                        |     |
| New Item on Every Call Boosts Jobber's Sales .....           | 179 |
| By Phil Lance  |     |
| Aerosol Patent Decision (Part II) .....                      | 191 |
| Odor Can be the Decisive Sales Factor .....                  | 199 |
| By Raoul Pantaleoni  |     |
| Effect of Hard Water on Quaternary Ammonium Germicides ..... | 207 |
| By John W. Klimek  |     |
| Bids and Awards .....  | 95  |
| New Trade Marks .....  | 97  |
| Products and Processes .....                                 | 113 |
| Production Clinic .....                                      | 115 |
| New Patents .....  | 121 |
| Soap Plant Observer .....                                    | 123 |
| Chemical Specialties Section .....                           | 127 |
| Classified Advertising .....                                 | 247 |
| Coming Meetings .....  | 254 |
| Advertisers' Index .....                                     | 255 |
| Tale Ends .....  | 256 |

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Published monthly by  
MAC NAIR-DORLAND COMPANY

IRA P. MAC NAIR  
President

GRANT A. DORLAND  
Vice President and Treasurer

Publication Office  
254 W. 31st St., New York 1, N. Y.  
Telephone: BRyant 9-4456

Chicago Office  
333 N. Michigan Ave.

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Subscription rates: U. S., \$4.00 per year; Canadian, \$5.00; Foreign, \$6.00. Copy closing dates—22nd of month preceding month of issue for reading matter and 10th of month preceding month of issue for display advertising. Reentered as second-class matter at the Post Office, New York, N. Y., under the Act of March 3, 1879.

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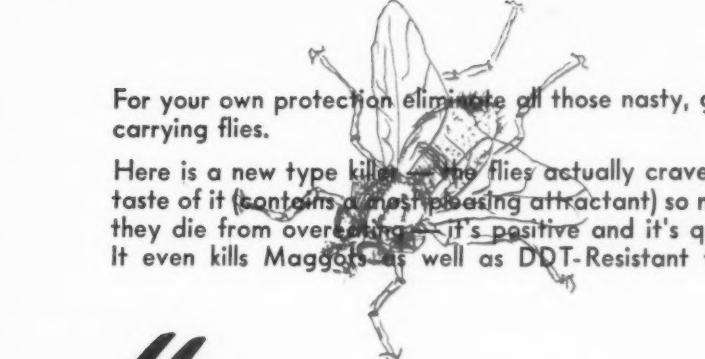


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PURE GUM RUBBER BALLS jostle phosphate through this 200-mesh silk screen. With this and other type sifters Monsanto sizes its products to meet your most exacting requirements.

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soda ash  
scheduled  
stocks for



STAINLESS STEEL TANK TRUCK supplies phosphoric acid. Deliveries of acid, soda ash, lime, other raw materials are scheduled to insure unfailing phosphate stocks for Monsanto customers.



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*in oleic acid*

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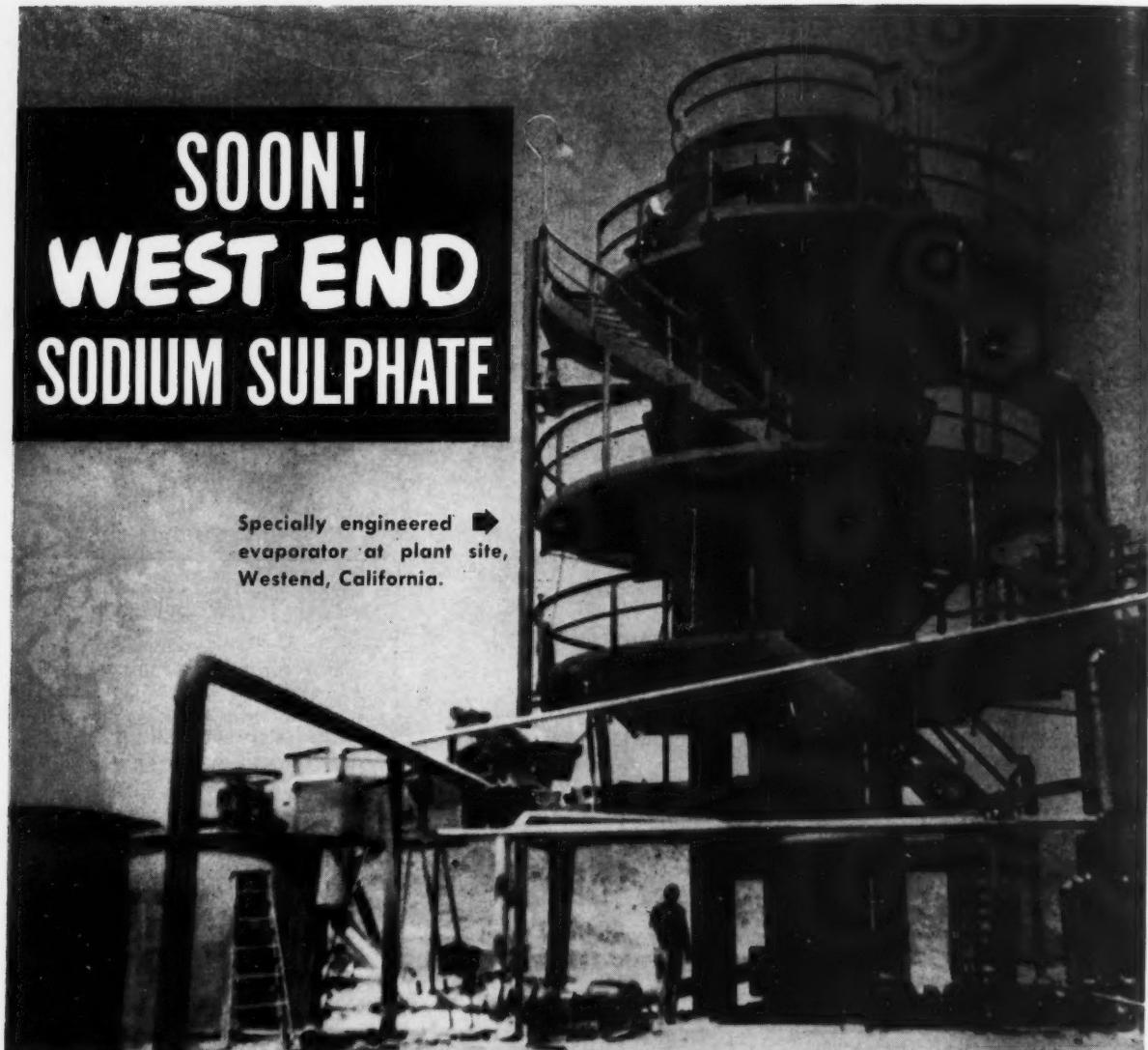
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**NONIC 261**—an excellent emulsifier for mineral, fish and vegetable oils.

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HEAVY DUTY  
FLOOR WAX

#### FOR TOUGHEST TRAFFIC AREAS.

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DARK

LIGHT

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COMMERCIAL  
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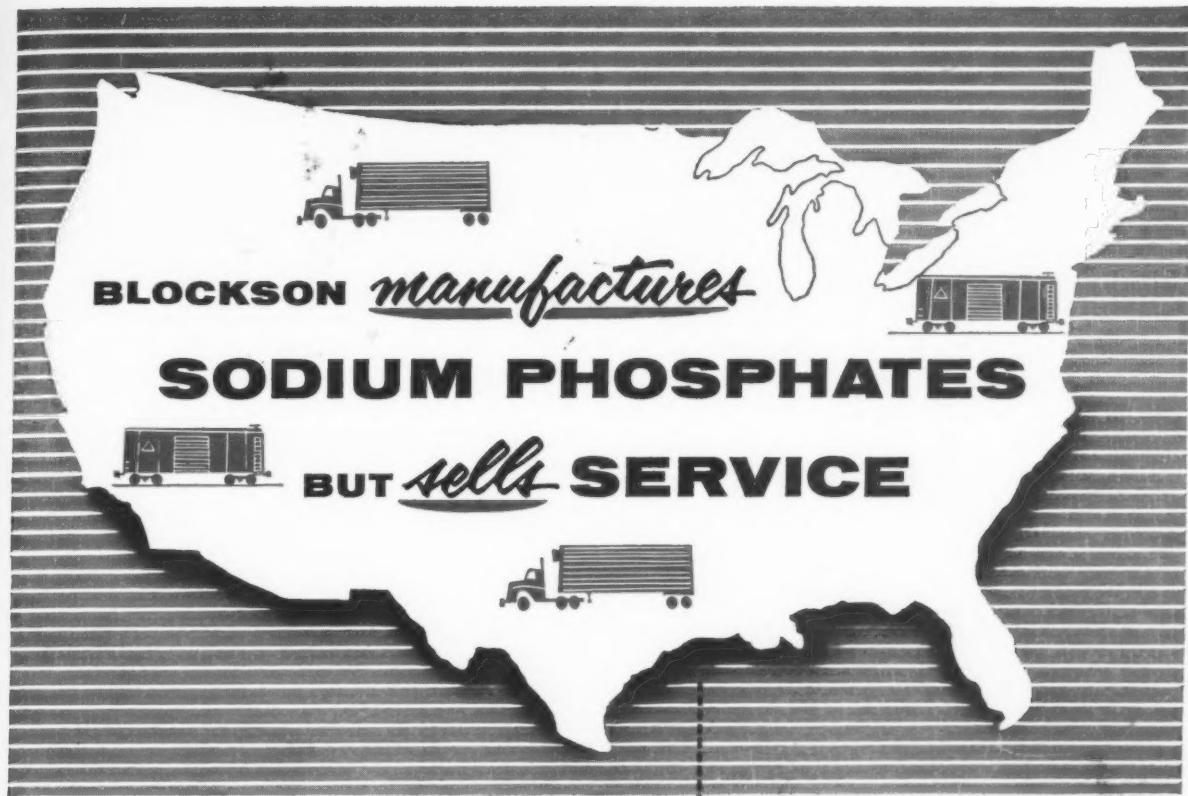


COMMERCIAL  
FLOOR CLEANER  
CONCENTRATE

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**DISTRIBUTOR PROGRAM**  
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**Sold Nationally through SIMONIZ Distributors**



HERE is a reason for the very substantial tonnage of sodium phosphates Blockson ships to industrial areas far from our greatly expanded plant facilities here in Joliet. That reason is continuous prompt shipment—a few bags or many carloads—minus the red tape usually associated with an operation as large as ours.

Again and again customers tell us they couldn't get better service if our plant were located in their own industrial community.

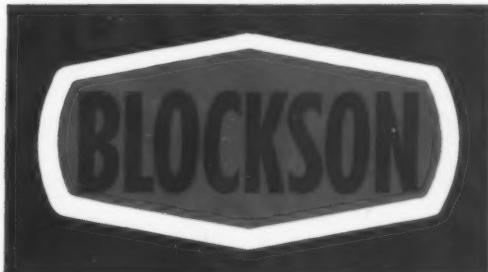
There is a reason for that, too. At Blockson, production and sales are so closely coordinated that a single collect phone call is all that is required to expedite your unforeseen needs and get your sodium phosphates en route the very same day if it is humanly possible, and most frequently it is.

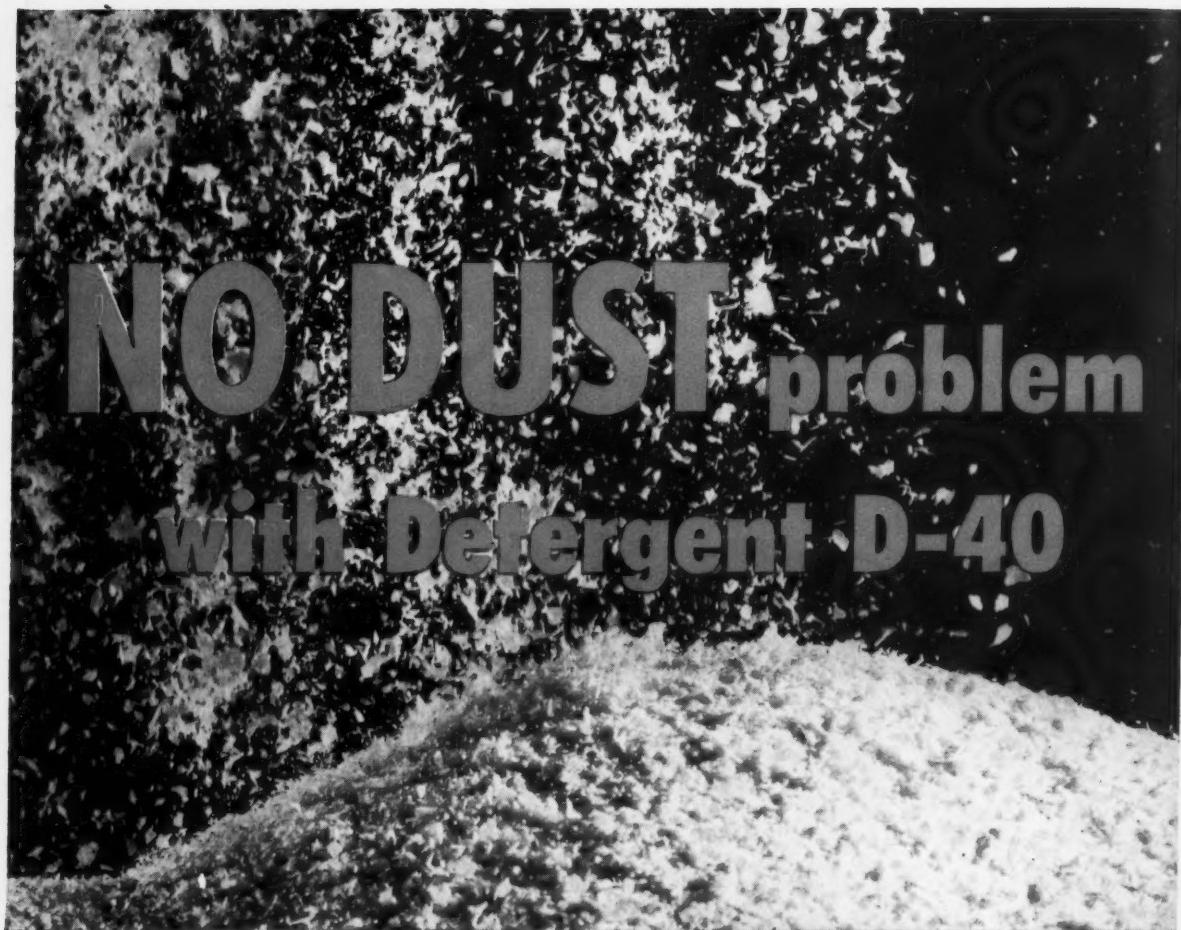
We welcome the responsibility of functioning as an arm of our customers' production setup, minimizing their inventory and warehousing expense, timing and dovetailing dependable shipments with their own processing operations and at all times providing a uniform and dependable competitively priced product—readily available in your required granulations and specifications.

The new Blockson catalog and handbook is yours for the asking.

BLOCKSON CHEMICAL COMPANY  
Joliet, Illinois

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- Trisodium Phosphate  
CRYSTALLINE • MONOHYDRATE
- Tetrasodium Pyrophosphate  
ANHYDROUS
- Sodium Polyphos  
(SODIUM HEXAMETAPHOSPHATE)  
(SODIUM TETRAPOSPHATE)
- Sodium Acid Pyrophosphate
- Trisodium Phosphate Chlorinated
- Disodium Phosphate  
ANHYDROUS • CRYSTALLINE
- Monosodium Phosphate  
ANHYDROUS • MONOHYDRATE
- Sulfuric Acid
- Sodium Fluoride
- Sodium Silicofluoride
- Hygrade Fertilizer
- Teox 120  
NONIONIC SURFACTANT





**Other Oronite Surface Active Products:**

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(Basic Raw Material)  
Detergent Slurry  
Detergent D-60  
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Dispersant NI-O  
Dispersant NI-W  
Dispersant FO  
(Burner Oil Additive)

Switch to D-40SF (the *dust-free* flake form of Detergent D-40) to repackage for car wash or other light duty products—or compound D-40SF for heavy duty use. You'll discover there is none of the annoying dust so frequently associated with dry detergents.

Oronite's unique classifying system in the manufacturing process eliminates the fine dust particles from D-40SF, providing you a desirable dust-free product. Prove this to your own satisfaction. Write for a free sample of D-40SF and compare it to the product you are now using. You'll see the difference immediately. And this extra quality feature of D-40SF is at no premium in cost.

Oronite, the world's largest producer of detergent raw materials, offers Detergent D-40 in three different particle sizes—flakes (D-40SF), granules (D-40) and powder (D-40FG). Write any Oronite office for free samples or "use" bulletins showing a variety of fields where D-40 can be successfully used.



2400

**ORONITE CHEMICAL COMPANY**

200 Bush Street, San Francisco 20, California  
30 Rockefeller Plaza, New York 20, New York  
20 North Wacker Drive, Chicago 6, Illinois  
714 W. Olympic Blvd., Los Angeles 15, California  
Mercantile Securities Building, Dallas 1, Texas  
Carew Tower, Cincinnati 2, Ohio





# After Closing . . .

## Lever Tests Bar Detergent

A new synthetic detergent toilet bar, trade named "Dove", was announced late last month by Lever Brothers Co., New York. An opaque white bar with a sculptured form designed to be snugly cupped in the hand, "Dove" will be marketed by the Pepsodent division of Lever. It is now being introduced in test markets in the Quad-City area of Davenport, Ia.; Rock Island, Moline and East Moline, Ill., and in Greensboro, N. C. The detergent bar will be sold through retail food, drug, and department stores. Advertising for "Dove" is being handled by Ogilvy, Benson and Mather, New York.

Lever becomes the third of the three major soap units to market a bar form synthetic detergent product. Colgate is generally believed to have been the first with "Vel Beauty Bar." Procter & Gamble Co., Cincinnati, later marketed "Zest."

— \* —

## Monsanto Settles Strike

Operations were resumed Apr. 25 at the John F. Queeny plant of Monsanto Chemical Co., St. Louis, Mo., after settlement of a strike which had begun April 18. Agreement on conditions of a two year contract ended the stoppage which had idled 1500 workers.

— \* —

## Airkem Names Irwin

Wendel M. Irwin recently was appointed sole representative for Airkem, Inc., New York, in Southern California, Arizona and western New Mexico. Mr. Irwin operates under the trade name of Airkem Service Southern California, with offices at 2814 W. Vernon Ave., Los Angeles. He has been with Airkem since January, 1953, when he joined the firm as west-

ern regional sales manager. In his new capacity he handles Airkem's smoke odor service, industrial and



Wendel M. Irwin

space treatment, as well as the complete line of Airkem products for the sanitary supply trade. Prior to joining Airkem, Mr. Irwin operated his own specialty products distributing company in San Francisco. From 1940 through 1950, he was western divisional manager covering 11 western states for the Shaver Division of Remington Rand Co.

— \* —

## Old Dutch Division Sold

Purex Corp., South Gate, Calif., announced late last month the acquisition of the Old Dutch Cleanser Division of Cudahy Packing Co., Omaha, Neb., tentatively effective May 1. In addition to "Old Dutch Cleanser" the division makes and markets about 35 industrial products in the soap, abrasives and detergent fields. It has plants located in East Chicago, Los Angeles, and Toronto, Canada, and packaging facilities in Havana, Cuba; Mexico City, D. F.; Manila, Philippines; and Sidney, Australia. These will now be added to the Purex detergent and bleach manufacturing

plants in South Gate, and St. Louis, Mo. and bleach plants in Memphis, New Orleans, Dallas, Atlanta, San Leandro, Calif., and Tacoma, Wash.

Purex intends to elect L. F. Long, president of Cudahy, to its board of directors according to A. C. Pelletier, Purex president.

Cudahy has sold "Old Dutch Cleanser" directly to wholesalers and retail chains. Robert F. Sharp, Purex vice president and general sales manager, said "Purex will market the Old Dutch line through its regular brokers . . . However, the Old Dutch sales force, both retail and industrial, will be retained and will be integrated with the Purex sales operation." An aggressive advertising and promotional campaign is planned for the cleanser, Mr. Sharp said, but no change in advertising agencies for the product is contemplated.

## Brenns in Hospital

Earl Brenn, vice-president of the Huntington Laboratories, Inc., Huntington, Ind. who had been confined to the hospital at Fort Wayne, Ind. by an attack of hepatitis since early in March, returned to his home April 18 where he is convalescing. He was stricken while skiing with Mrs. Brenn at Aspen, Colo. Feb. 28. He expects to return to his desk about May 15. At the same time, J. L. Brenn, father of Earl Brenn and president of Huntington Laboratories, was hospitalized, April 19, also at Fort Wayne, for diagnosis of a stomach condition. He and Mrs. Brenn had recently returned from an air cruise of South America.

## Educators to Hear McElroy

Neil H. McElroy, president of Procter & Gamble Co., Cincinnati, will be the principal speaker at the Chemical Progress Week Educator's Luncheon on May 16, at the Waldorf-Astoria Hotel, New York, in his capacity as chairman of the White House Conference on Education. The luncheon marks the beginning of the chemical industry's second nationwide Chemical Prog-

ress Week sponsored by the Manufacturing Chemists Association, May 16-21.

Mr. McElroy is currently taking an active part in preparations for the White House Conference, which will be held in Washington, Nov. 28-Dec. 1, after local and regional meetings in each of the states and territories.

— ★ —

#### **Monsanto Plant Struck**

Approximately 1500 employees are involved in a walkout which struck the William G. Krummrich plant of Monsanto Chemical Co., St. Louis, Mo. The plant makes insecticides, phenol, chlorine, oil additives and other products. The walkout, which started at two p. m. on April 28 was termed an unauthorized work stoppage in a telegram from the international union president who called upon officers of the local 12, International Chemical Workers Union, to influence all employees to return and remain at work. According to plant manager R. S. Wobus the strike violates the contract signed April 12 which runs for one year and has a no-strike, no-lockout clause. A discrepancy between benefits under the new Queeney plant contract and the Krummrich agreement is said to have caused the strike. The company has declared itself willing to amend the Krummrich contract so as to abolish any difference.

— ★ —

#### **AIC Hears Vaughn**

Speakers at the 32nd annual meeting of the American Institute of Chemists, held in Chicago, May 11-13, included Dr. Thomas H. Vaughn, vice-president, Colgate-Palmolive Co., Jersey City, N. J., who presented a paper entitled "Evaluating Commercial Chemical Development Effort." J. Warren Kinsman, vice-president, E. I. du Pont de Nemours & Co., Wilmington, Del., discussed "Working with Salesmen;" and W. I. McNeill, consultant, New York, spoke on "Controlling the Controller." R. C. Newton, vice-president, research and development, Swift & Co., Chicago, presided over the session.

#### **USDA Notices of Judgments**

Notices of judgment under the Federal Insecticide, Fungicide, and Rodenticide Act, Nos. 201-230, were published recently by the United States Department of Agriculture. Listed are eleven cases of lack of registration for insecticides, rat baits, disinfectants, moth repellents, and fungicides. Seven cases of "lack of registration and required information and misbranding" concerned insecticides and soil sterilants. "Adulteration and misbranding" was the complaint in five instances including disinfectants, insecticides, and a household bleach. Two cases of lack of registration and lack of required information for insecticides are reported and lack of registration and misbranding was the complaint in two other insecticide cases. The full list is available from the U. S. Government Printing Office, Washington 25, D. C.

— ★ —

#### **A & J Open House**

An all day open house for customers was held April 20 by A & J Distributors, New Brunswick, N. J., sanitary supply jobbers. The affair marked the firm's first anniversary in its new quarters on route #1 in Raritan Township. Refreshments were served to approximately 500 visitors, who inspected A & J's spring line of merchandise. Manufacturers' representatives were on hand to demonstrate equipment and products.

— ★ —

#### **Wyandotte Strike Ends**

The 81-day old strike at the Michigan Alkali Division of Wyandotte Chemicals Corp., Wyandotte, Mich., was settled Apr. 22. Production was resumed on Apr. 25.

— ★ —

#### **Delays Plant Dedication**

R. M. Hollingshead Corp., Camden, N. J., has postponed the dedication of its new plant at Sunnyvale, Calif., which had been set for May 12. The new date will be announced shortly and will be later this summer, it was announced

by Wilbur H. Norton, president.

The change was made to avoid interference with the program of a major automobile manufacturer, who will dedicate a new multi-million dollar plant in the San Francisco Bay area in May.

— ★ —

#### **Asks New Sales Ideas**

Herman L. Brooks, honorary chairman of the board of the Toilet Goods Association, spoke at the April meeting of the Cosmetic Industry Buyers & Suppliers in New York. The former president of Coty Inc. and owner of Alexander de Markoff, New York, told CIBS that the cosmetic industry is too static in its advertising and in its selling and that new and dynamic ideas are wanted.

— ★ —

#### **Heads US-French Group**

Lawrence H. Flett, New York consultant, was elected president of the American Section of the Societe de Chimie Industrielle at a meeting in New York, Apr. 14. He succeeds Emil Ott of Hercules Powder Co., Wilmington, Del.

Other newly elected officers of the American section are: Robert S. Aries, consultant, New York; Jean R. L. Martin, Coty Products Corp., New York; and Jean Kern, National Aniline Division, Allied Chemical & Dye Corp., Canada, vice presidents; Pierre Bouillette, Givaudan-Delawanna, Inc., New York, secretary-treasurer; and Jerome Alexander, consultant, New York, honorary secretary. Other directors include: Prosper Cholet, General Chemical Division, Allied Chemical & Dye Corp., New York; Emil Ott, past president; and Worth Wade, American Viscose Co., New York, also a past president.

The American Section of the Societe de Chimie Industrielle will endeavor to bring chemical progress made in France to the attention of American chemists. An effort will be made to arrange for lectures by distinguished French chemists who may visit the United States and the Societe will do the same for American chemists visiting France.





*A message to SOAP INDUSTRY MANAGEMENT*

**Here's how you can use**

# **STRATEGIC PURCHASING**

*to help your company maintain  
a sound competitive position*

As profit margins tighten, your purchasing strategy becomes a vital force for success.

The way you purchase heavy chemicals, for instance, can influence your company's profits in the years ahead.

So it becomes increasingly important for you to seek every possible economic advantage when you select a chemical supplier.

Here, for example, are a few things to look for, when deciding on a source for caustic soda and other chemicals:

**1. Supply security.** How flexible are your supply lines? For instance, a supplier with plants located on deep water may be able to offer you a choice of rail or water delivery. This can insure you steady supply, in case of rail service interruption.

**2. Engineering help.** A supplier's

engineering staff can often be valuable to you when you are setting up a new chemical process or caustic handling system—not only with advice, but with actual design assistance.

**3. Smooth processing.** You'll find it helpful to work with the supplier's technical service men who visit you periodically. Often these men can spot potential problems and ward them off before they cause you trouble.

**4. Safety programs.** Your men can benefit from safety suggestions offered by your supplier. You should have on tap the latest in safety equipment, plus up-to-date information on safe handling of chemicals.

**5. Economy.** Choose a supplier who wants to help you cut your operating costs; who will go all the

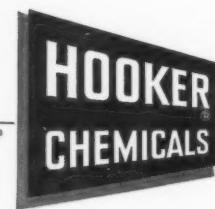
way with you in arriving at the best, most advantageous method of shipping and handling for your conditions.

**6. Experience.** Above all, choose a supplier who is familiar with your industry. It takes years of experience to acquire an understanding of the problems you face, and the know-how to help you solve them quickly and economically.

Are you getting your fair share of these strategic purchasing advantages?

Many of our customers in the soap industry feel that they get these advantages in buying from Hooker, a supplier of basic chemical materials to industry for fifty years.

In the light of the growing importance of these factors, isn't this a good time to review your policies on sources of chemical supply?



1905—Half a Century of Chemicals

From the Salt of the Earth—1955

**HOOKER ELECTROCHEMICAL COMPANY**

Buffalo Avenue & Union Street, Niagara Falls, N. Y.

NIAGARA FALLS • TACOMA • MONTAGUE, MICH. • NEW YORK • CHICAGO • LOS ANGELES





## **Minimizes settling—reduces outage**

**Celite provides 3 to 10 times more bulking action  
than any other inert mineral filler**

FOR CLEANSERS, insecticides, fertilizers and many other dry formulations—Celite\* diatomite powders provide great bulk per unit weight, at exceptionally low cost per unit volume. When added to formulations—even in quantities as small as 1%—Celite greatly minimizes settling, reduces outage, adds easier dispensing properties, too.

This bulking action is due to Celite's unique structure. Composed of microscopic, irregularly shaped particles which won't pack down, a given volume of Celite contains about 93% air space or voids.

### **Other useful properties step up product performance**

Because of its light porous mass, Celite has great absorptive capacity for perfumes, chemicals . . . it keeps powder free flowing and serves as a medium for shipping or storing liquids in dry form. And the tiny, durable Celite particles are also widely used as a mild, non-scratching abrasive in many silver, glass and auto polishes.

If you are looking for the "extra something" to lift your product above competition—at no extra cost—discuss your problem now with a Johns-

Manville Celite Engineer. For further information and samples, write Johns-Manville, Box 60, New York 16, New York. In Canada: 199 Bay St., Toronto 1, Canada.

### **Add all these product advantages—with Celite**

- Added Bulk
- Better Suspension
- Faster Cleaning Action
- Greater Absorption
- Improved Color
- Elimination of Caking
- Better Dry Mixing
- Improved Dispersion

\*Celite is Johns-Manville's registered Trade Mark for its diatomaceous silica products.


# **Johns-Manville CELITE**

**INDUSTRY'S MOST  
VERSATILE MINERAL FILLER**

FAMOUS LIGHTHOUSES OF AMERICA

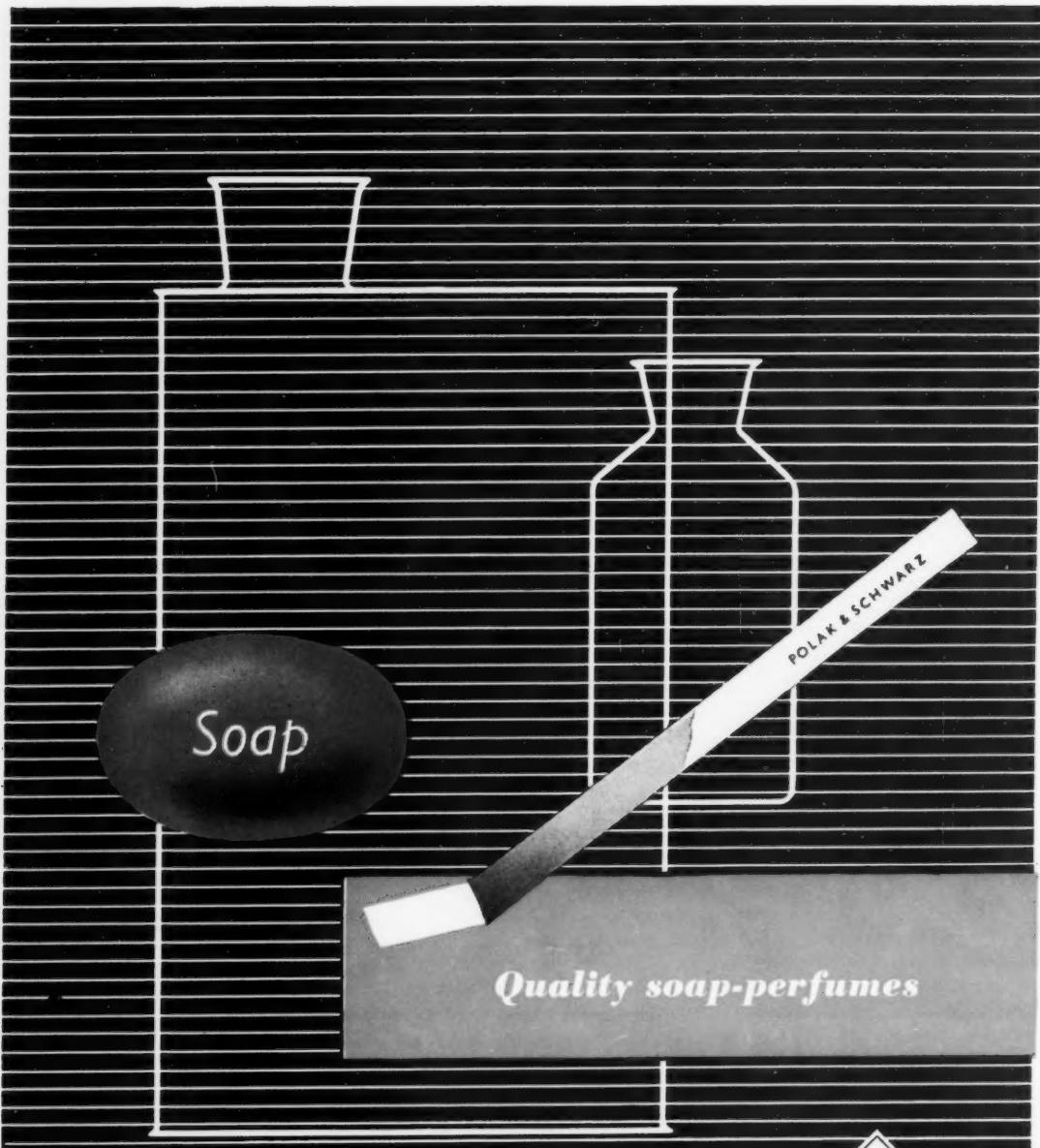


*MINOT'S LEDGE LIGHT, one of America's most famous wave-swept lighthouses, guards ships against treacherous reefs 6½ miles southwest of the entrance to Boston Harbor. The first tower at Minot's Ledge, an openwork iron pile structure completed in 1850, was toppled into the sea by a great storm in 1851. The second tower, built of interlocking granite blocks and completed in 1860, still stands solidly on the ledge.*

A familiar beacon and safe guide to quality in electrochemicals is the name Niagara Alkali Company, long recognized as a leader in this field of chemical production. Depend on Niagara for quality and good service in Nialk® Liquid Chlorine, Nialk Caustic Potash, Nialk Carbonate of Potash, Nialk Paradichlorobenzene, Nialk Caustic Soda, Nialk TRICHLORethylene, Niagathal® (Tetrachloro Phthalic Anhydride).

**NIAGARA ALKALI COMPANY**

60 East 42nd Street, New York 17, N. Y.



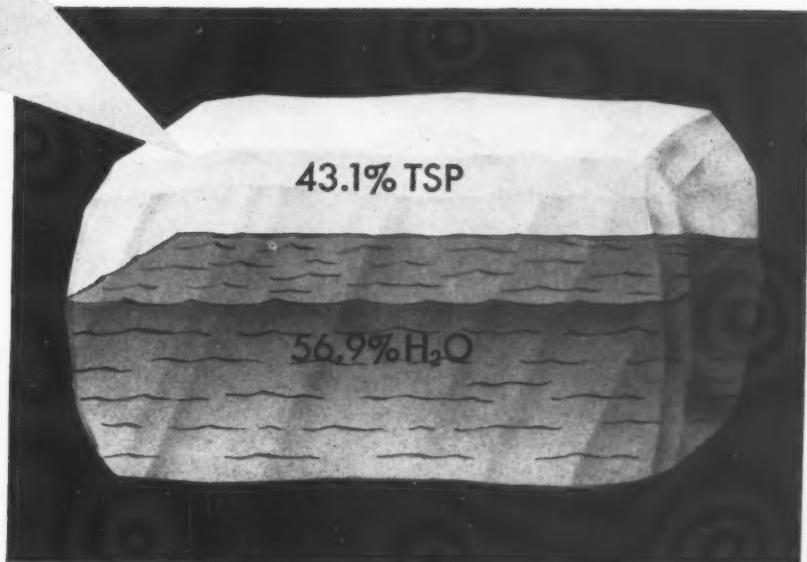
POLAK & SCHWARZ

PERFUMERY SPECIALTIES — ESSENTIAL OILS — AROMATIC CHEMICALS

Polak & Schwarz Inc., 667 Washington Street, New York 14 (N.Y.)



If you visualize a TSP Crystal this way



you'll see how you can save over \$1.00 per 100 lb.\*  
by switching to

## WESTVACO® TSP ANHYDROUS

Yes, it's a fact. You can save real money if you can use *WESTVACO TSP Anhydrous* instead of crystals.

When you buy TSP crystals, you pay delivery charges on 130 lb. of water for every 100 lb. of TSP in the crystals! When you buy *WESTVACO TSP Anhydrous*, you get better than 97% Na<sub>3</sub>PO<sub>4</sub>.

Since the l.c.l. rate is 97¢/100 lb. on a typical 250-mile haul, \$1.37 for 500 miles, \$2.06 for 900 miles, you can see how fast your savings grow when you stop paying delivery charges on water.

You save on first cost, too. Cost of crystals converted to a 100% Na<sub>3</sub>PO<sub>4</sub> basis is \$9.80/100 lb.; *WESTVACO TSP Anhydrous* \$8.45/100 lb.... both prices f.o.b. This saving is *in addition to what you save on freight or trucking*.

If you *must* use TSP Crystals, we sympathize with you. If you *can* use TSP Anhydrous, we can save you real money. A phone call or letter will bring an exact quotation. Why not start saving now?

\*L.C.L. delivery 250 miles from producing point. Get an exact quote on your savings.



Westvaco Mineral Products Division  
FOOD MACHINERY AND CHEMICAL CORPORATION  
General Offices • 161 East 42nd Street, New York 17  
CHICAGO, ILLINOIS • CINCINNATI, OHIO • HOUSTON, TEXAS • NEWARK, CALIFORNIA

## Now! Make instant-wetting liquid detergents for less than 3½¢ a pound!

Made possible by Armour's new flash-sudsing,  
instant-wetting liquid **ENERGETIC® W-100!**

*Here's the formula:*

|  |          |
|--|----------|
| 10% ENERGETIC W-100 (29¢/lb.) . . .    | 2.9¢     |
| 3% Alkyl Aryl Sulphonate (17¢/lb.) . . | .5       |
| 87% Water . . . . .                    | —        |
| 100%                                   | 3.4¢/lb. |

**More ways to cash in on new ENERGETIC W-100**  
Household cleaners, home laundering and dishwashing  
compounds, floor and glass cleaners—new nonionic ENER-  
GETIC W-100 gives high sudsing, good detergency and  
instant wetting to them all.

Use really *low* concentrations—it's 100% active. Adapt  
it to any specifications—it's unbuilt. Spray it on solids, too,  
for stepped-up powdered detergents.

**Complete formula booklet available.** Send the coupon  
today for the new ENERGETIC W-100 Booklet—it's  
full of new formulas to help you cash in on this Armour  
product. Or use the coupon for a trial order of new  
ENERGETIC W-100.



### FREE SAMPLE AND ORDER BLANK

ARMOUR Industrial Soap Department  
Armour and Company, 1355 W. 31st St., Chicago 9, Ill.

Please send me:

- FREE BOOKLET—"Energetic W-100"
- 5-gallon drums of Energetic W-100 @ \$13.60/drum  
(Trial Order has money-back guarantee)
- Bill me     Check Enclosed     Money Order Enclosed

Name \_\_\_\_\_ Title \_\_\_\_\_

Firm \_\_\_\_\_

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City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

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**ARMOUR** *Industrial Soap Department*

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SOAP and CHEMICAL SPECIALTIES



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This new book on  
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**SESKUICARBONATE**  
**of SODA** contains detailed  
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- Your new book on Sesquicarbonate of Soda
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Soda Ash • Snowflake<sup>®</sup> Crystals • Potassium Carbonate • Chlorine • Ammonium Bicarbonate  
 Calcium Chloride • Sodium Bicarbonate • Cleaning Compounds • Caustic Potash • Chloroform  
 Sodium Nitrite • Caustic Soda • Ammonium Chloride • Methylene Chloride • Methyl Chloride  
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(Olfactive sense)

Since 1768, or nearly 200 years, the House of Chiris has dedicated itself to the Fifth Sense—the olfactive sense. In the development of Essential Oils, Floral Absolutes, Chemical Isolates, Synthetic Chemicals, and all of those creations and specialties which combine industrial aromatics with natural products and produce fragrance, the House of Chiris has a cherished history. Today Chiris maintains laboratories headed by experienced olfactive chemists who have available to them not only the "know how" of generations of Chiris chemists but also the research facilities of three continents and four modern laboratories located in: FRANCE—GRASSE & PARIS; GREAT BRITAIN—LONDON; BRAZIL—SAO PAULO and NEW YORK CITY. Whether Essential Oils, Isolates, or combinations thereof, are used as fragrance constituents by the perfumery, soap, cosmetics, or allied industries, we are happy to be consulted.

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220 East 23rd Street, New York 10, N. Y.

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\* Chemical Senses, page 1, Moncrief—lists senses as follows: "sight, hearing, touch, taste, smell." Note smell is listed Fifth.



**SODIUM  
PHOSPHATES**



**SPRAY  
DRIED GRANULES**

**for LOWER BULK DENSITY**

SHEA'S sodium phosphate granules are made specially for the detergent industry . . . Sodium tripolyphosphate . . . Tetrasodium pyrophosphate . . . Disodium phosphate . . . all anhydrous, in granule or powder form . . . Also Trisodium phosphate, crystalline. Samples, technical data mailed promptly.



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**Plants at: Adams, Mass. • Columbia, Tenn. • Jeffersonville, Ind.**



# FOR HOME CLEANSING AGENTS

**The Key is CMC**

Dirt always goes down the drain with the rinse water; is never redeposited and left behind when Hercules® CMC is included in the formulation for soaps, detergents, or cleaning agents of all types. CMC's exceptional soil-suspending properties make it ideally suited for today's easier to use, quicker cleaning household aids.

"Trust", a newly developed cleansing disinfectant, provides a good example of the modern products that rely on CMC.

Many commercial laundries and manufacturers of cleaning agents are well acquainted with the advantages of economical CMC. If you are among the few who have not yet explored the possibilities CMC offers, write for technical data and testing sample.



*Virginia Cellulose Department*  
**HERCULES POWDER COMPANY**  
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► **ALL-PURPOSE CLEANER**—"Trust", a product of Essential Chemicals Co., Milwaukee 8, Wisconsin, "disinfects, deodorizes, sanitizes and cleans all in one operation."

A QUALITY CHOICE OF THE WORLD'S  
LEADING SYNTHETIC DETERGENT PROCESSORS!

# NEOLENE

# 400

INTERMEDIATE FOR SYNTHETIC DETERGENTS

### Five convenient terminals for immediate delivery

Conoco's expanded distribution facilities provide the fastest possible delivery of NEOLENE 400 by tank car, tank truck and barge. This minimizes inventory requirements for customers. From 5 strategic U. S. locations, Conoco now serves a growing number of processors with increased efficiency and economy. Write for more information about NEOLENE 400 and other Conoco Petrochemicals.

**CONOCO**  
**PETROCHEMICALS**

*Petrochemical Know-How*

*from the Ground Up!*



**CONTINENTAL OIL COMPANY**

PETROCHEMICAL DEPARTMENT

630 Fifth Avenue, New York 20, N. Y.

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# **73% CAUSTIC SODA**

## **may be a sign of savings for you!**

More and more users, who have been buying 50% caustic soda, are following the trend to 73% concentration. This practice is being advanced and advocated by Columbia-Southern because of the possible savings in delivered cost by converting to the higher concentration.

Naturally, your location and the volume of caustic soda consumed determine the savings realized in switching from 50% to 73% concentration. But, regardless of the amount of caustic soda you use, we suggest you investigate the possible savings in your operation.

The examples of annual savings shown on the sign post are taken from customers' records, selected at random, who converted to 73% caustic soda.

We believe it will pay you to look into the savings of buying 73% rather than 50%. The services of our technical staff are at your disposal. We shall be glad to confer with you, make recommendations, and supply data. Write our Pittsburgh office today.



**COLUMBIA-SOUTHERN  
CHEMICAL CORPORATION**  
SUBSIDIARY OF PITTSBURGH PLATE GLASS COMPANY  
ONE GATEWAY CENTER • PITTSBURGH 22 • PENNSYLVANIA



**CUSTOMER "A" SAVED  
\$2,850 THE FIRST YEAR**

**CUSTOMER "B" SAVED  
\$2,650 THE FIRST YEAR**

**CUSTOMER "C" SAVED  
\$3,500 THE FIRST YEAR**

**CUSTOMER "D" SAVED  
\$2,055 THE FIRST YEAR**

DISTRICT OFFICES: Cincinnati  
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Boston • New York • St. Louis  
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Dallas • Houston • Pittsburgh  
Philadelphia • San Francisco  
IN CANADA: Standard Chemical  
Limited and its Commercial  
Chemicals Division



A BETTER AMERICA  
THROUGH CHEMICAL PROGRESS



**NORDA does what Nature does...  
NORDA makes good scents**

You have smelled lilacs in the Spring, on some night of soft, warm rain. Nature's magic fragrances are magnificent . . . they're matchless.

Norda works as Nature works, caring for quality first. Norda also does subtle wonders in creating exquisite odors.

Use a Norda scent for your perfumes, colognes, your soaps, your good deodorants. Use a fine Norda scent in your aerosol mists. There's a delicate difference that pleases.

Send a request today on your letterhead for generous free Norda samples.

**Norda Essential Oil and Chemical Company, Inc.**  
601 West 26th Street, New York 1, N. Y.



*Always remember—  
never forget . . .  
Norda Makes Good Scents*

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MAY, 1955



UNDERWOOD & UNDERWOOD

## *Quality Makes the Difference*

Quality performance comes from quality products. For years A. Gross & Company have produced COCONUT FATTY ACIDS of extreme thermal stability. Light colors, freedom from metallic contamination, uniform titre and acid value ranges are only part of the picture.

Whether you need GROCO 24 — Single Distilled COCONUT FATTY ACIDS or GROCO 26 — Stripped COCONUT FATTY ACIDS with most of the capric and caprylic acid removed, try GROCO COCONUT FATTY ACIDS.

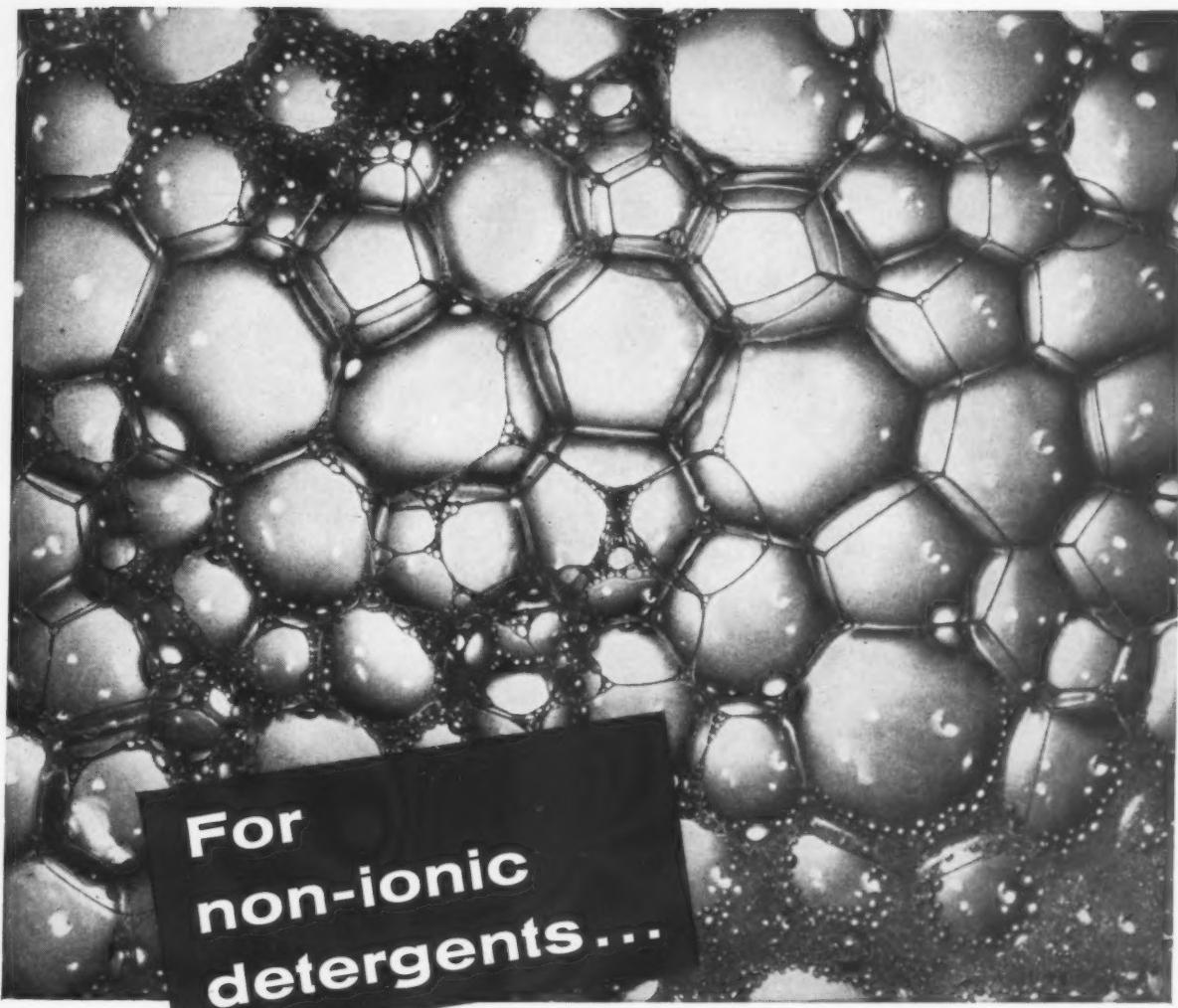
Send for our new catalog "Fatty Acids In Modern Industry".

|                              | GROCO 26<br>Special | GROCO 24<br>Regular |
|------------------------------|---------------------|---------------------|
| Titre                        | 26° — 29°C.         | 22° — 25°C.         |
| Color 5 1/4" Lovibond Red    | 2.5 max.            | 2.5 max.            |
| Color 5 1/4" Lovibond Yellow | 15 max.             | 15 max.             |
| Color Gardner 1933           | 2 — 4               | 2 — 4               |
| Unsaponifiable               | 0.25% — 0.50%       | 0.25% — 0.50%       |
| Saponification Value         | 251 — 258           | 261 — 270           |
| Acid Value                   | 250 — 257           | 260 — 269           |
| Iodine Value (WIJS)          | 7 — 15              | 7 — 13              |

# A. G R O S S & C O M P A N Y

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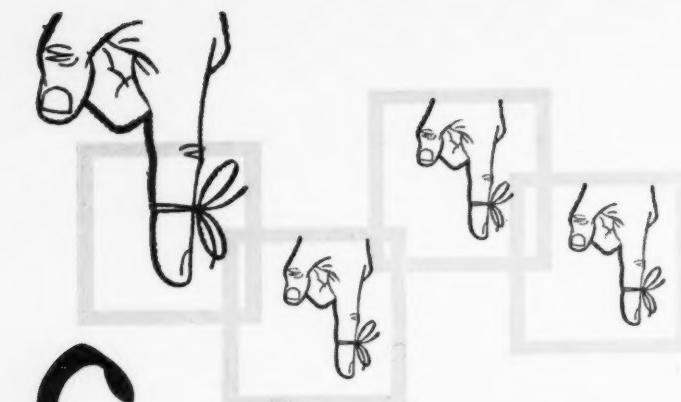
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| CALCOFLUOR WHITE MR Super Conc. | slightly reddish blue  | fair            | whitens                         | cotton, viscose             |
| CALCOFLUOR WHITE 4B Conc.       | slightly greenish blue | excellent       | no effect                       | cotton, viscose             |
| CALCOFLUOR WHITE 2R Conc.       | slightly reddish blue  | good            | slight yellowing                | cotton, viscose             |
| CALCOFLUOR WHITE M2R Super      | slightly reddish blue  | fair            | whitens                         | cotton, viscose             |
| CALCOFLUOR WHITE SD             | neutral blue           | fair            | strong whitening                | nylon, acetate, wool, orlon |
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# ...about detergents

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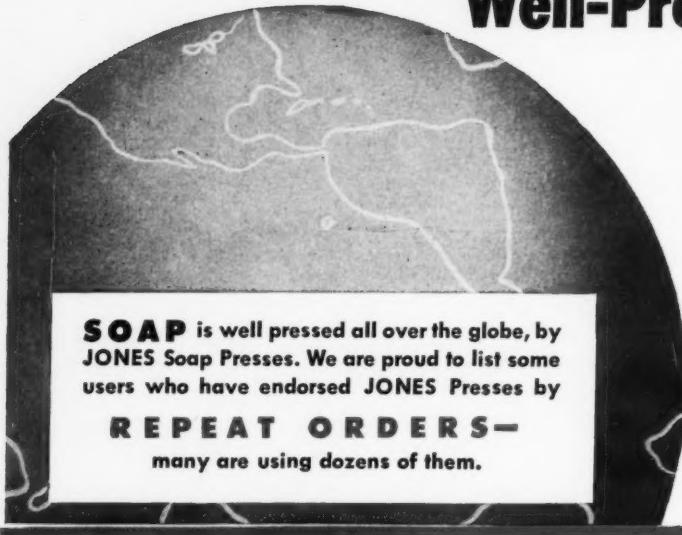


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DETERGENT

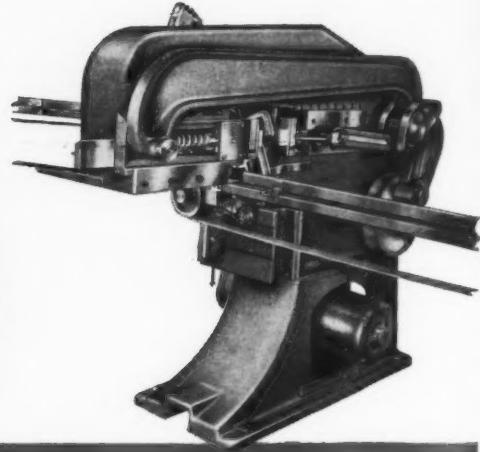
\*Du Pont trade-mark for surface-active agents

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# ... in brief

as the editor sees it . . .

 SHIPPING CASES . . . In a recent decision by the New York Court of Appeals, the top state court, which reversed the decision of a lower court, it was held that the manufacturer and shipper of soaps and toilet articles is responsible for retail sales taxes on the corrugated containers in which the materials are shipped. In other words, the retailer buys only the contents for resale, not the shipping cases themselves, and in effect is the end user of the shipping cases.

Although this state court decision covers the case of a New York City retail sales tax, it well could set a precedent in numerous areas, states and cities which have retail sales taxes and become a national pain in the neck to manufacturers and marketers. How a product and the container in which it is shipped to market can be separated for tax purposes we find difficulty in seeing. But it has been done, and by a high court at that. Eventually, this decision could affect every food, soap, cosmetic and what not which goes to market in a shipping case and is unpacked by the retailer.

 SLIPPERY . . . Advertisements for a floor polish which emphasized the risk of a dangerous fall recently hit us right between the eyes. It so happens that the product in question mentions that it is not a wax, but a high-gloss floor "polish." The secondary copy in the advertisement tells about high gloss floors not necessarily being slippery and says that the product is listed by the Underwriters Laboratories "for anti-slip protection."

Now, it's a manufacturer's right to advertise anything he wants to about his products, but we felt that the big emphasis on "a dangerous fall" was almost an open invitation to the phoney law suit boys. Granted that non-slip in a floor

finish is excellent. So why not bring out the safety factor primarily and lay off the dangers involved in slippery floor finishes? The dangerous fall idea might well come home to roost via another of the same manufacturer's products.

We appreciate that scare advertising has been used for years and with considerable success. It made Kolynos tooth paste one of the biggest sellers some years back. But this idea of positively suggesting an accident is poor stuff in our book.

 CASH FOR COUPONS . . . Collecting free goods coupons by juveniles and others and cashing them in for money or merchandise other than that covered by the coupons has long been one of the weaknesses of the couponing system. In fact, in many chains, as well as small local stores, cash credit is given by the cashier for free coupons without checking to see if the specified product has been purchased. Frankly, the average store owner or manager doesn't give a hoot whether the manufacturer issuing the coupon is gypped or not. And the system of retail dealers "taking in" coupons for cash at a discount has been and still is common practice.

Recently, in Detroit, newspaper warnings against this practice were published and enforcement agencies were reported cracking down on offenders. A local grocer who had purchased a small quantity of coupons for cash from "some boys" was hauled into court and fined fifty dollars. The grocer maintained that he was just doing the boys a favor,—at a small discount.

Maybe closer policing of their coupon deals by the manufacturers themselves is the answer. But any such would add greatly to the cost of already costly couponing jobs. The practice is so widespread that real policing looks hopeless.

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**POWDERED SOAPS** and **CLEANSERS....**  
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In special screen sizes

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Pentahydrate form of Sodium Tetraborate

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 TRADE SHOWS . . . In the growing list of trade shows being put on by sanitary supply jobbers in various parts of the country, we see danger, danger both to the manufacturer and the jobber himself. There is a limit to which the average manufacturer can afford to take space and contribute to these shows, and that limit is close at hand. In addition, the increasing demand for catalog sheets and sections being leveled at the manufacturer is becoming overwhelming. To the average jobber, each additional trade show means an increase in the cost of manufactured goods which he buys. Manufacturers' costs are steadily mounting and this well could be the straw which breaks the camel's back. But, no matter what, the jobber himself will pay the bill in the long run. It's bound to work out that way. It always has, and it's something to think about by those contemplating jumping on the trade show bandwagon.

 CARTON DESIGN . . . When asked his opinion of detergent carton designs, a New York industrial package designer recently said "they're lousy" and "they stink." He also lambasted detergent packages as "horrible examples" of the trend to greater color use on packages, and the use of two and three letter words for product trade names.

If the critic were not the designer of the wrapper for a very successful bar soap, we could lay his attack to possible lack of knowledge of the facts of marketing. However, without reference to specific products, it can be argued that some detergent and soap packages are far from works of art. But is that the main criterion in designing a grocery shelf package? Although pleasing appearance and artistic merit may be noteworthy, the chief aim of package design today is to sell soap, detergents, or what have you. The design of the package, the colors used, even the name of the produce are all selected upon the basis of shelf "sales appeal."

If it is easier for the housewife to remember a two or three letter product name, we can see no objection to adopting it. As a matter of fact in the recent second annual Package Designers

Council competition, the product which took top honors as the most outstanding package for a new product was that of "Ad" detergent.

 INSECTICIDES . . . Well, it seems that we're having a rush of new aerosol insecticides to market of late. Not to mention also moth products. Four leading merchandisers of chemical specialty products and soaps who heretofore have not marketed an insecticide, currently are announcing new aerosol insecticides. Others have added moth specialties. And they all seem to be going for the larger size packages, twelve to fourteen ounces. Two of the firms have for years been leading marketers of floor waxes and polishes. This is their first deviation from the old line and apparently marks the beginning of a policy of diversification. Possibly they see in household insecticides the best path along which to start expanding.

Over the past several years, the merchandising of household insecticides generally, both the conventional sprays and aerosols, has been somewhat sickly. As we see it, no manufacturer has done an outstanding job of promotion. Maybe they all feel that people will buy insecticides when they need them, that nobody buys them by choice but only by dint of necessity. But when we contrast their marketing with floor waxes, soaps, detergents, shave cream and a long list of other specialties, we are quite amazed that insecticides sell as well as they do. It sure must be that they're badly needed.

Now with these new products coming to market, they are likely to be backed by strong sales promotion and advertising. We grant that the market is expanding, especially the aerosols, but nevertheless the newcomers are certain to steal business away from the old line products. It's inevitable. And especially when we note that the new items are being marketed by live and alert merchandisers. So maybe this is the cue for the older products to turn up their merchandising burners a bit, put on a little heat marketwise. For when all is said and done, in spite of poor merchandising, household insecticides are still the largest selling of all the aerosols. Maybe the potential market is a lot larger than any of us to date has suspected.

# phosphates?



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**Sodium Tripolyphosphate**  
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## as the reader sees it...

### New Detergents List?

Editor:

Could you please advise us as to whether or not there is a new and complete list of synthetic detergents available similar to those compiled by John McCutcheon and published in your magazine in previous years.

ALFRED SADLER,  
Technical Department  
*Vestal, Inc.,*  
St. Louis

Mr. McCutcheon is revising his earlier edition of "Synthetic Detergents Up-to-date," in *Soap & Chemical Specialties* publication of which will begin in the next two months. As with previous editions, it requires from three to four installments to complete. When these have appeared in their entirety in *SOAP*, reprints in booklet form will be available. Ed.

### Detergent Discrepancies

Editor:

I am undergoing a course of training in detergency and in my study of the detergents market in the United Kingdom, I find that the position of the United States is very indicative. Therefore, I am very pleased, together with my fellow students, to be able to see copies of *Soap & Chemical Specialties*, as they give the most complete and up-to-date picture.

I should like to point out that in the March issue I found the following discrepancies. First, on page 41 you gave the syndet sales for 1953 as 2,134,000,000 pounds and contradict this on page 75 by showing 1953 syndet sales as 1,886,883,000 pounds. Secondly, in Table I on page 41 you showed the total solid and liquid syndet sales as 402,000,000 pounds in 1948—should this not be 408,000,000 pounds? Third, on page 74 the word "anyhdrous" should be spelled "anhydrous."

Perhaps you would clarify these points for me.

L. G. HOPPER,  
*Surrey, England*

The figures published in Table I on page 41 and in the news item on page 75 agree since both are from the same source: the Association of American Soap & Glycerine Producers, Inc. In the article by Mr. Macon on page 41 he uses a figure of 2,134,000,000 as syndet sales for 1953. This is a projection for sales of the total industry. AASGP figures are based on those supplied only by members and represent the production and sales of between 85 and 90 percent of the total industry. Thus, the apparent discrepancy.

The 1948 sales figure of 402 million pounds for both liquid and dry synthetic detergents is correct. The decimal point for the liquid figure is misplaced in the table and the figure should read .71 (710,000 pounds) instead of 7.1 (7,100,000 pounds) as it appears in the tab'e.

The word is anhydrous, of course, and the form shown on page 74 obviously is a typographical error, which our vigilant proof readers missed.

To reader Hopper, we are glad to know that he and his fellow students read *SOAP* so closely. Obviously, the young man has a future in the publishing business. Ed.

### Detergent Congress Papers

Editor:

I would greatly appreciate any information you might be able to provide on how I might obtain a copy of the papers presented at the First World Congress on Deter-

gency, which took place in Paris last summer.

GEORGE LOWRY, chemist  
*Curley Co.,*  
*Philadelphia*

Copies of the proceedings of the first congress can now be ordered from the secretariat at 70 Champs Elysees, Paris 8, France. Price for the full report, if order is received by May 31, 1955, is 6,000 francs. Those who registered for the Congress receive a 25 percent discount. Reports of section meetings can be ordered separately. We suggest writing to the secretariat for particulars. When the proceedings will be available has not been announced as yet. Ed.

### Vocabulary — At Last!

Editor:

At the present time the 1954 edition of my "Vocabulario, Espanol-Ingles" (Spanish-English Vocabulary of terms for the soap, detergent, glycerine, perfume and cosmetic industries), which was in its ninth edition, is exhausted. But the tenth edition is now on the press. This new edition has been enlarged and modernized, new words have been included, and an English-Spanish section added. The old editions did not have the English-Spanish section because they were designed only for Spanish speaking people, particularly pupils of mine studying soaps, detergents, oils, per-

(Turn to Page 251)

Conferring on final plans for the 20th annual convention of the Toilet Goods Assn., which was held at the Waldorf-Astoria Hotel, New York, May 10-12, were: John A. Ewald, head of Avon Products, Inc., Suffern, N. Y., and president of TGA, center; Robert B. Brown of Bristol-Myers Co., New York, chairman of the program committee, left; and S. L. Mayham, executive vice-pres. of TGA.



# whether you use soap or synthetics— you'll get top performance with these field-tested Procter & Gamble products



## AMBER GRANULES

A neutral 88%, 42° titer type soap of exceptional purity and uniformity. Well suited for the preparation of paste or gel-like products because of its high titer. Its granular form makes it ideal for powdered products. Excellent for the preparation of hand cleaners, paste cleaners, polishes, lubricants and coatings.



## IVORY BEADS

A medium titer, neutral, white soap of exceptional purity and quality. Well suited for compounding products where a mild but effective soap is required—hand soaps, paints, polishes, dentifrices, protective creams, dishwashing compounds and paper coatings.

## Olate FLAKES

A neutral, light colored, thin flake soap with a titer of approximately 12°C. Forms fluid solutions at high concentrations at room temperature. An excellent product for use in the preparation of liquid cleaners, hand soaps, laundry detergents, abrasive cleaners, waterless hand cleaners, protective creams.



## AB GRANULES

A neutral synthetic detergent, wetting and emulsifying agent of the 40% active sodium alkyl aryl sulfonate type. A light, white, readily soluble free-flowing granule, it can be used effectively in the blending of bubble baths, car washes, dish-washing compounds, dairy cleaners, insecticides, laundry detergents, rug and upholstery cleaners, and general maintenance cleaners.



## EXTRA GRANULES

A complete multi-purpose synthetic detergent whose active ingredient is mainly sodium alkyl sulfate blended with carefully selected builders to give maximum detergent and sudsing performance. Ideal for use as a bubble bath, car washes, metal cleaners, floor cleaners, dairy cleaners, rug and upholstery shampoos, and general maintenance cleaners.



## WA PASTE

A neutral synthetic detergent and wetting agent whose active ingredient is mainly sodium alkyl sulfate. Orvus WA has excellent sudsing, wetting, emulsifying, dispersing and penetrating properties which are well suited for paste and liquid shampoos, bubble baths, liquid detergents, liquid car washes, emulsifiable solvent cleaners, liquid floor cleaners, insecticides, glass cleaners, rug and upholstery cleaners and for many other liquid cleaners.



## ES PASTE

A specially developed synthetic detergent whose active ingredient is mainly modified alkyl sulfate. Offers exceptional efficiency and stability over a wide range of operating conditions. The product's detergent, wetting, penetrating, sudsing, dispersing, and emulsifying properties make it excellent for the preparation of liquid shampoos, bubble baths, liquid detergents, liquid floor cleaners, insecticides, car washes, emulsion cleaners, and a wide variety of other liquid products.



A neutral nonionic synthetic detergent of the 100% alkylphenol ethylene oxide condensate type. A light colored liquid with a clean pleasant odor. Its superior detergent, wetting and emulsifying properties, plus its compatibility with a wide variety of other products, offer excellent performance in liquid detergents, sanitizer detergents, self emulsifying solvents, automatic laundry detergents, glass cleaners, insecticides, textile cleaners, dairy cleaners, and bottle washing compounds.

Our Products Research Department will be happy to supply you with additional information about any of these products as well as technical help in connection with their effective use.

**PROCTER & GAMBLE  
BULK SOAP SALES DEPT.  
CINCINNATI 2, OHIO**

**AMERICA'S LARGEST MANUFACTURERS OF QUALITY SOAPS AND SYNTHETIC DETERGENTS.**



Shape and wrapper of "Cashmere Bouquet" were modified in 1952, as shown above. Oblong bar is easier to stack and

the simpler wrapper design offers greater shelf visibility. However, the soap's floral odor has remained constant.

## Cashmere Bouquet

**B**ELOVED to be the oldest existing brand of toilet soap sold in the United States, "Cashmere Bouquet" was first manufactured in 1872 by Colgate & Co. of John Street, New York City. The recent discovery of a well-preserved cake of "Cashmere Bouquet," which apparently dates back to the earliest days of manufacture, indicates that the soap has changed little in its 83 years. The cake has been streamlined for modern customers, but is basically the same firm, white cake with the floral odor that became popular in the 1870's.

Sometime late in 1872, a German merchant seaman named Herr Hahn, was married in the town of Osnabrueck, near Hamburg, Germany. On one of his first trips after his marriage, he visited New York City, where he purchased a cake of the new "Cashmere Bou-

**Believed to be the oldest U. S. toilet soap still being sold, "Cashmere Bouquet" dates back to 1872. First made by Colgate & Co.**

quet" toilet soap as a present for his bride. Delighted with the odor, she placed the cake in her linen closet as a sachet. There it remained until 1935, when the woman died. While cleaning out her possessions, the cake of "Cashmere Bouquet" was brought to light and returned to the United States by Mrs. Wilma Gandin. She gave it to her nephew, William Entrup of 25 Canterbury Lane, Roslyn Heights, N.Y. It has remained in his possession until it was uncovered recently by a chance conversation.

This cake of soap, and many millions like it, dates far back in American history. Robert Colgate, a friend of the English statesman,

William Pitt, was a rather impractical man and marvelous idealist. He was due to be arrested by the Tories because of his feelings shown toward the Americans during the Revolution. He arrived in Baltimore, Md., in May, 1795, and entered into business without too much success.

As a result of this business failure, his son William Colgate was apprenticed to a soap maker at the age of 15. At 17, William came to New York to work for another soap maker. According to legend, William started his own business in 1806 in a little shop at 6 Dutch Street in order to pay off his father's debts. This shop, only a few



Two photos above show front and rear views of very old cakes of "Cashmere Bouquet" soap. Soap at left is from the museum of Colgate-Palmolive Co., Jersey City. Front and rear views of the cake of soap discovered recently by Mr. Entrup, which is believed to date back to the late 1870's, appear at right.

doors from where he learned the trade, was started when William was 23.

This first establishment was a combination store and factory. Toilet soap was one of the principle products from the beginning, and one of the main items was Colgate's "Pale Soap." However, the company also made laundry soaps and starch.

During this era, soap was largely a home-made product and such soap as William Colgate made was a luxury item for city people. Since his was a carriage trade clientele, Colgate offered a personal delivery service for his products. One of the novel features of this soap was that it was perfumed, Colgate being one of the first soapers to perfume his soaps on a regular basis from the inception of his business in 1806.

Colgate and Company, under its various names, prospered with its perfumed toilet soaps. In 1845,

a soap pan capable of producing 45,000 pounds of soap at one time was installed at the plant. This was a new world's record and people traveled to see this marvel in operation. In 1847, the factory was moved to Powles (Paulus) Hook, in what is now Jersey City. The offices remained at Dutch Street. In 1855, the Dutch Street offices were expanded to include 55 John Street. A retail store was maintained on John Street until it was discontinued in 1900. In 1910, the entire outfit moved to Jersey City.

In 1857, Colgate "Pale Soap" sold for six cents a pound. Family soap sold for seven cents a pound and others sold for five and six cents a pound.

Fred A. Guild, whose long career with Colgate and Company spanned the late 19th century, collected rare perfumes as a hobby, although he was not a professional perfumer by trade. A native of Edgartown, an important New England port during the days of sailing vessels, Guild had many friends who were sea captains. Aware of his hobby, these friends brought him samples and raw perfumes from India and the Orient.

Guild was always seeking new fragrances and blending materials collected for him. Early

(Turn to Page 215)

Old time advertisements for "Cashmere Bouquet" soap bracket copy of Peterson's Magazine of 1889 vintage, in which advertisements for the soap appeared.



# Versatility of Nonionic Detergents

In the surfactant field we are used to superlatives and a product less than miraculous will surely have a difficult time. Consequently, it is not surprising that we must use "spectacular" to describe the recent growth of synthetic anionics. By contrast, the nonionics rate of growth resembles that of a 10-year-old boy who in the last five years appears to be much shorter than this 13-year-old brother. There are ample signs, however, that nonionics are approaching a period of rapid growth. We will describe the versatility of nonionics which makes this growth possible.

First, as a measure of the versatility of nonionics, we will look at some of the many industries in which nonionics are being used or show promise.

Table I shows some of the applications of nonionics in the textile industry—wool scouring, wetting, dye levelling, emulsifying oils and finishes, kier boiling, bleaching, desizing, soluble oils, and antistatic agents. The usual properties of surface active agents such as wetting, emulsification, and detergency are all applied in this group as well as certain characteristics which are unique to nonionics. For example,

\*Paper presented before the 28th annual meeting of American Soap & Glycerine Producers Association, Inc., New York, Jan. 28, 1955.

**Table I. Textile Industry**

|  |
|--|
| Scouring wool                                  |
| Wetting  |
| Print and fast color soaping                   |
| Dye levelling                                  |
| Emulsifying oils and finishes                  |
| Kier boiling                                   |
| Bleaching                                      |
| Carbonizing                                    |
| Desizing                                       |
| Soluble wool spinning oil additives            |
| Antistatic agents                              |
| Stabilization of diazonium compounds in dyeing |



**By H. E. Bramston Cook\***  
Oronite Chemical Co., New York

in wool scouring the good emulsifying power of nonionics aids in removing the natural fats and oils which hold so much dirt in the original fleece. In addition, the nonionics are nonsubstantive to fibres; that is, they do not adhere tightly, and consequently the wool can be rinsed clean with relatively cool water and losses of surfactant are at a minimum.

## Detergent Applications

TABLE II lists nonionic applications in the detergent industry. Needless to say, this group includes the greatest growth potential for nonionics. You are all familiar with the current rapid growth of light duty liquid detergents. Basically, these products are anionic in composition, but most of them include certain specially designed nonionics for foam stabilization and detergency improvement. In the next application listed, low foaming solid detergents, maximum use is made of the relatively low foaming nature of nonionics.

The difference between these two surfactant types merits fur-

ther discussion. Historically, foam has played an important role as an indicator of the presence of sufficient fatty acid soap to overcome water hardness. With the introduction of nonionics, the need for foam as a measure of optimum concentration is sharply reduced, for we know that good detergency can be obtained in hard water with essentially no foam. The high foaming detergents are excellent products and fully merit the glowing terms used to describe them. However, for some applications too much foam can limit usefulness and in these fields low foaming nonionic-based detergents are ideal.

The next application listed in Table II: dry cleaning, uses oil soluble nonionics to emulsify a small amount of water in the cleaning solvent so that water soluble stains are removed. Skipping next to detergent-sanitizers we find that combinations of cationics and nonionics are used for simultaneous sanitizing and cleansing. Due to poor compatibility, similar combinations of anionics and cationics are impossible. The viscous fluid nature of most nonionics is excellent for many antidusting applications. Space does not permit more than mentioning that nonionics also find use in laundry detergent formula-

**Table II. Detergent Industry**

|  |
|--|
| Wetting agents   |
| Rug and upholstery cleaning  |
| Liquid detergent formulation   |
| Low foaming solid detergent formulation                              |
| Dry cleaning detergent   |
| Laundry detergent formulations                                       |
| Detergent-sanitizer formulations                                     |
| Glass and porcelain cleaning compounds                               |
| Antidusting agents   |
| Lime soap dispersants  |
| Hard surface cleaning (dishes, glass, autos, floors, walls, bottles) |

**Table III. Pulp and Paper Industry**

|                                 |
|---------------------------------|
| Paper felt washing              |
| Pitch dispersion                |
| Lignin removal                  |
| Pulp washing                    |
| De-inking waste paper           |
| Emulsifying for water base oils |

tions, hard surface cleaners, and as lime soap dispersants.

The third table shows several applications of nonionics in the pulp and paper industry, namely, felt washing, pitch dispersion, lignin removal, pulp washing, and the de-inking of waste paper. Other applications are given in Tables IV through X.

#### Reasons for Versatility

TURNING now to the factors which permit so much versatility we find that adaptability to a wide variety of conditions is an outstanding characteristic of the nonionics. This adaptability stems from the infinite variations possible in nonionic molecules. As is known, in detergents the surface active agents require a balance between the oil soluble hydrophobe and water soluble or hydrophile portions of the molecule, so that there is a tendency to collect at an interface between two liquid phases and lower interfacial tension. In anionics and cationics there is a comparatively limited range of hydrophobe structure which will balance the ionic hydrophile portion of the molecule. In nonionics, however, the water solubilizing hydrophile portion of the molecule can be varied at will so that almost any hydrophobe can be balanced to a surfactant by adding the proper amount of hydrophile.

With this freedom of hydrophobe groupings in which the molecular weight, the type of attachment to the hydrophile, and the arrangement of the atoms may be varied at will, it is not surprising

to find that a number have found commercial use. As shown in Table XI, alkylphenols, tall oil acids, fatty acids, fatty amides, alcohols, mercaptans and propylene oxide groups are used as hydrophobes in commercial nonionics. The choice of hydrophile is more limited with ethylene oxide, diethanolamine, glycerol, and sorbitol used at present. Structural formulae, as well as types of nonionics, are included in Table XI.

The ability to choose between various types of hydrophobes and hydrophiles described above is not the only structural flexibility of the nonionics. A wide variation of structure within each type is possible. In the alkylphenols, for example, single or multiple alkyl groups of various chain lengths can be used. Each change in the alkyl groups such as that in going from an isoctyl to a nonyl group creates a whole new series of nonionics with somewhat different properties. Another example is in the use of polypropylene oxide as a hydrophobe. Here a complete spectrum of products is possible ranging from liquids to solids.

With a given hydrophobe a series of nonionics are possible by varying the amount of hydrophile added. For example, in the nonylphenols combined with varying amounts of ethylene oxide a gradual change is observed in wetting time, detergency, emulsification, solubility, and other characteristics as the oxide chain length is increased. It should be noted that in speaking of polyoxyethylene chain length only an average number of oxide units is intended. Structural studies have shown that an average of 10 oxide units will have a wide variety of chain lengths present with approximately eight per cent falling between eight and sixteen oxide units.

Structural flexibility is not the only cause of nonionic versatility. Equally important is their high compatibility with other compounds under a great variety of conditions. This compatibility is due to a unique combination of chemical and physical properties.

**Table V. Metal Industry**

|                                 |
|---------------------------------|
| Metal cleaning                  |
| Cutting oils                    |
| Anodizing                       |
| Passivating                     |
| Pickling                        |
| Metal fluxes for even spreading |

#### Many Nonionics Inert

CHEMICALLY, many of the nonionics under normal use conditions are completely inert. They do not ionize and therefore cannot react with acids, salts, or bases. This permits their use in the presence of anionic or cationic surface active agents and in hard water. Detergent-sanitizers, for example, are combinations of quaternary ammonium salts for germicidal properties and nonionics for detergency. In contrast, if anionics and cationics are mixed, they react due to their opposite ionic charge and form an insoluble precipitate. Another type of detergent sanitizer results from combinations of nonionics and iodine which have unusual properties. Similarly combinations of anionics and nonionics make excellent emulsifiers for agricultural toxicants. Nonionics may be converted to anionics by sulfation of terminal hydroxyl groups and such products are available commercially. Such products have found their major application to date in the preparation of liquid detergents.

The stability of nonionics varies, of course, with the use conditions. Under most conditions stability is excellent. Some of the esters show appreciable hydrolysis on extended heating with acids and alkalies, and the thioethers are somewhat sensitive to oxidizing and acid conditions, but their manufacturers do not recommend them for such unusual conditions. The alkylphenyl polyglycol ethers and alkyl ethers

**Table IV. Paint Industry**

|   |
|---|
| Emulsifying the synthetic rubber base types as well as vinyl and acrylic resins |
|---|

**Table VI. Agricultural Industry**

|  |
|--|
| Superphosphate fertilizer additive         |
| Insect repellants emulsifiers              |
| Fruit and vegetable washing                |
| Insecticide emulsifiers and wetting agents |
| Herbicide emulsifiers                      |

**Table VII. Leather Industry**

Wetting back agent  
Fat liquoring agent  
Penetrant  
Dyeing

**Table IX. Cosmetics and Food Industry**

Emulsifiers  
Shampoos  
Edible emulsifiers for baking and food  
Thickening agents

**Table VIII. Mining Industry**

Flotation agents

**Table X. Miscellaneous**

Emulsifier for polishing compounds,  
waxes  
Photographic film washing, spot prevention  
Removal of wall paper  
Asphalt wetting to stone  
Fire fighting  
Demulsifier for crude petroleum emulsions

are outstandingly stable, and this stability makes possible the preparation of spray-dried, low-density detergents. This new development overcomes one of the former drawbacks of nonionics, for previously it was necessary to absorb the liquid nonionics on suitable builders in order to obtain a free-flowing detergent. Such products were high in density and met some sales resistance. As previously mentioned, a nonionic from polyoxypropylene can be made as a solid; and this development also should aid in preparing low density solid detergents.

Physiologically, the nonionics are innocuous and some, such as monoglycerides, have received approval for internal use due to their similarity in structure to naturally occurring, long-used food stuff. Others are finding use in the field of chemotherapeutics. Nonionics are bland to the skin and, consequently, are widely used in creams, lotions, and shampoos.

One of the outstanding physical properties of nonionics is their inverse solubility in water. Most compounds are more soluble as the temperature rises, but nonionics become less soluble. This inverse solubility seems to be due to the manner in which polyether hydrophiles become water soluble. A loose physical bond is formed between water molecules and the ether groups so that water solubility is obtained. When the temperature rises, these bonds are weakened, and when enough are broken the nonionic is no longer completely water soluble, and an oil separates. The temperature at which this oil phase appears

is known as the cloud point.

Without going into a detailed discussion of how a detergent works, it appears that best results are obtained when the surface active agent is not completely dissolved and is partially in a colloidal state which promotes micelle formation with the consequent envelopment of soil particles. In nonionics, the semi-colloidal state can be obtained without the use of builders by adjusting the cloud point; and this forms the basis for the better detergency of unbuilt nonionics compared with unbuilt anionics. The anionics, on the other hand, respond better to builders and the best built nonionics and anionics are equivalent detergents. It is obvious that for systems where detergency is needed and builders cannot be used, nonionics are the product to be considered.

In addition to the previously discussed adaptability and compatibility, nonionics owe their versatility to their efficiency as surface active agents. This efficiency takes two forms. First, in many applications less nonionic is required to perform equally as well as a larger quantity of anionics, and, second, in many applications nonionics can give performance better than that obtainable with either anionics or cationics. Needless to say, the growth potential of nonionics would be severely limited if they were not more efficient than anionics in certain applications, for basically the present commercial nonionics are more expensive than the anionics. It was reported by Dr. Foster D. Snell in the Jan. 3, 1955, issue of *Chemical and Engineering News* that laboratory work on production of nonionics from sugar and tallow has indicated potential cost reductions for nonionics stated to be suitable for detergents. It remains to be seen whether such products made commercially will have the stability and other characteristics necessary for many uses.

In connection with the performance superiority of nonionics over anionics and cationics for many cleaning jobs, M. N. Fineman has reported in the February, 1953 issue

(Turn to Page 89)

**Table XI. Major Types of Nonionics**

Type

Polyoxyethylene alkylphenol  
Polyoxyethylene fatty esters  
Polyoxyethylene talcates  
Polyoxyethylene fatty ethers  
Polyoxyethylene thioethers  
Polyoxyethylene polyoxypropylene

Sorbitan fatty esters  
Polyoxyethylene sorbitan or  
mannitan fatty esters  
Alkanolamide

Dipolyoxyethylene fatty amides

Glyceryl and glycol di and mono  
esters

Organic esters of phosphate

Structural Formula

$R-C_6H_5-O-(CH_2CH_2O)_n-H$   
 $R-COO-(CH_2CH_2O)_n-H$   
 $R-CCO-(CH_2CH_2O)_n-H$   
 $R-O-(CH_2CH_2O)_n-H$   
 $R-S-(CH_2CH_2O)_n-H$   
 $(CH_2\text{---})_{x-y}(CH_2CH_2O)_y < (CH_2CH_2O)_z-H$

$RCONHCH_2CH_2OH$   
 $(CH_2CH_2O)_x-H$   
 $RCON <$   
 $(CH_2CH_2O)_y-H$

$OR'$   
 $R-O-P=O$   
 $O$   
 $R'$



Crowning a hill in the suburban area of Philadelphia, new Lankenau Hospital represents the most advanced contempor-

ary architectural work for an institution of this sort. Modern cleaning materials, machines and methods are employed.

## ... just to Clean Ultra Modern

**A**LITTLE over a year ago, 101 patients were moved in one day, quietly, efficiently and without mishap, from the old Lankenau Hospital in central Philadelphia to a new-as-tomorrow hospital with builders' dust still lurking in the corners. The 93 year old institution had occupied the old site for over 80 years. The new location was in the suburban area on the outskirts of the city.

The smoothly executed patient moving day, opening one of the most modern, scientifically advanced and expertly staffed hospitals in the country, marked the beginning of a long period of readjustment, experiment and innovation for Sister Kathryn Lausch, Lutheran Deaconess and Executive Housekeeper of Lankenau Hospital.

The move, as far as Sister Kathryn was concerned, was com-

parable on a much magnified scale to that of a housewife who moves from an ancient, awkward Victorian mansion into a light, airy, new home, built in the most modern manner of new materials, employing great quantities of glass, new floor materials, new wall materials, and new methods of heating, lighting and cooking. The old Lankenau Hospital, occupied since 1872, had wooden floors, conventional 19th century windows (washed two a day by the regular housekeeping staff), slipcovered and dark wooden furniture, and painted walls. The new Lankenau has tile floors (asphalt, rubber or ceramic), great strips of windows around all sides of the building, plastic furniture coverings, blond wood and many tiled walls.

When the necessity for a larger, more modern hospital be-

came apparent, the present site was chosen because an extensive survey showed a need for a general hospital in the area, reported to be the second fastest growing in the entire country, with 250,000 people within a two-mile radius. The old buildings were too outmoded for efficient operation and 10 general hospitals had developed within a one-mile radius making remodeling at the old site impractical.

The new hospital crowns a hill and its land encompasses 93 acres. Some of the facilities and services in the \$11,000,000 building are itemized below:

374 beds and bassinets;  
all patients' rooms located in one wing, facing south across the grounds with large picture windows to take advantage of the winter sun and summer winds;  
attractive glare-free colors:

H-shaped construction for maximum efficiency; sound-absorbing plaster ceilings; rubber tile floors in heavy traffic areas; built-in flush lighting fixtures; Executone at every bedside for patient communication with nurses' station; oxygen piped to every patient's room; Trayveyer system to carry food to patients within three to five minutes of leaving main kitchen; kitchen capacity of 3,000 meals per day, with reserve supplies for 10 days to feed patients and personnel in case of emergency; glass-cubed pediatric department with modern isolation facilities; high-speed dumbwaiters to carry sterile materials from sterile supply center to patient areas; pneumatic tube system for five-second delivery of messages, medical

and delivery rooms to add to comfort and lessen explosion hazards; static-arresting floors in rooms where ether or other explosive anesthetics are used.

With only one-third of her needed staff, due to resignations when the hospital moved so far from its old location, Sister Kathryn faced problems raised by new quarters, new materials and new layout of working areas, with 4,715 square yards of windows, 6,383 square yards of corridors and halls, 177 patient rooms, and 162 toilet facilities. The Lutheran Deaconesses are not ladies to be stumped by problems, no matter how large they loom. Sister Kathryn's difficulties were repeated pretty much throughout the hospital in the departments presided over by other members of the sisterhood.

John D. Lankenau, a trustee and for 32 years president of the

finement and good order and scrupulous cleanliness, so essential for the welfare of the patients." Through the suggestion of his sister in Bremen, Germany, the Deaconesses were invited to the hospital. In 1884, Sister Marie Krueger and six other sisters arrived in Philadelphia to begin their work, the nursing and management of the hospital, and to start a school of nursing. There are now 24 sisters in Lankenau Hospital. They are in charge of the dietary department, pharmacy, social service, stores, nursing (the head nurse, some supervisors and some floor nurses) and house-keeping.

#### **Cleaning Staff**

SISTER Kathryn's staff is again up to its normal complement, her systems for cleaning the great new building are established, and she is continuing a constant search

## **Lankenau Hospital** *By Florence W. Brewer*

records, requisitions, etc. to any of 21 stations; Televoice system between patient floors and medical records' library for convenience of doctors; chutes at each nursing station to carry soiled linen away immediately; air conditioning system in operating

hospital, gave more than his name to the German Hospital of Philadelphia, which was established in 1860. Aside from his many financial and administrative contributions to the institution, he introduced the Deaconesses. When he became president in 1869, he felt an "absence of personal sympathy, quiet and re-

for the best possible products to keep Lankenau a "clean hospital."

She now has a staff of 75 people, seven in the nurses' home, 10 on the night crew, four in the linen room and sewing room, five elevator operators, four on a utility crew, 45 maids and housemen, plus a day and a night housekeeper, and

When patients are dismissed from Lankenau everything in the room is given a meticulous cleaning including bed, table, cabinet, utensils, etc. Center: Sister Kathryn Lausch,

Lutheran Deaconess and executive housekeeper for Lankenau Hospital. Right, houseman cleans floor of public room first thing in the morning as part of the daily cleaning routine.





One of the attractive patient and visitor lounges in new Lankenau Hospital. There is one of these sunny rooms on every patient floor.

an assistant. They work an eight-hour day, five days a week. Of necessity the development of new methods and routines has been a matter of gradual change, as the cleaning teams came face to face with the unfamiliar.

Sister Kathryn won't soon forget the patient who indignantly called the Housekeeper's Office early in the occupancy of the new building and complained bitterly that her bathroom had been so dirty, she had to get down on her hands and knees to scrub it herself. This pointed up a situation which seemed almost insurmountable in the beginning—builders' dust reappeared everywhere as soon as it had been cleaned up. With a curtailed staff, breaking in new people, and deciding on the best products for cleaning new materials, the first days in the miraculous new hospital were wearing and difficult ones. However, the builders' dust was finally eliminated, the staff is at full strength, and training is progressing steadily.

Sister Kathryn likes to be on hand for a new employee's first day of work, for she puts top emphasis on training. "A material is no better than the people who use it," is one of her favorite phrases. "Scrub, rinse and dry," are the three vital steps in any cleaning job, according to the Executive Housekeeper of Lankenau, and the hardest thing to teach is the proper balance between flooding a surface and insufficient water.

Her assistant and the two

housekeepers train the new people individually as they are hired. One of the housekeepers works with the new employee steadily for the first day, showing him or her what is to be cleaned and how, with the stress on soap and water and a thorough rinsing. The housekeepers follow up carefully on each person during the first week they are on their own. Daily inspections check the work of both new and old people.

#### Cleaning Schedule

THE cleaning schedule for Lankenau Hospital, systematically set up by the housekeepers, is arranged as follows:

**Daily**—housemen, responsible for rubbish and floors, vacuum each room; maids, responsible for furniture, dust; housemen return to mop (order in which each pair is to work on their rooms is carefully laid out); public rooms connected with each patient unit are covered first thing in the day before normal use by patients and visitors.

**Weekly**—Each maid and houseman team is responsible for one area of 17 to 18 rooms, with four or five toilet rooms, two bathrooms, one utility room, one treatment room, office and nurses' station, and a sitting room and lobby shared with the adjacent section. Three or four of these rooms are assigned each day for a thorough cleaning.

**Discharge**—Whenever a patient is discharged a complete and ex-

tremely meticulous cleaning of everything in the room is scheduled, including table, bed, cabinet, utensils, etc.

**Night crew**—The night crew covers areas which would be awkward to clean during the day, such as offices, laboratories, X-ray rooms, lobby, corridors and gift shop. One man is assigned from the night crew to clean the operating rooms, which are maintained during the day by the orderlies.

**Yearly**—The utility crew, on daily assignments, is involved in a constant "spring cleaning" chore. Their work is so scheduled that they go through the entire building during a year, giving each section its complete "turning out." As a general rule all men on this crew work together as a group.

#### Cleaning Materials Used

ASPHALT tile floors (hard enough to hold furniture without marking) in the rooms and rubber tile floors (quieter and easier to keep clean-looking) in the corridors are cleaned with a liquid detergent. A protective polishing liquid wax is buffed on the asphalt tile. Terrazzo and ceramic tile floors in washrooms and utility rooms are cleaned with an abrasive ammoniated crystal powder, and similar floors in operating and delivery rooms are cleaned with liquid soap. All film brought in on shoes must be completely eliminated in the latter rooms. No pine oil products are used, as Sister Kathryn feels they leave a slight film.

Except for isolation rooms, in which every inch of room and furniture must be completely cleaned and disinfected, no all-over cleaning has yet been done on walls. A quick liquid spot remover has been used for isolated spots. A germicidal benzylammonium chloride solution is used on the painted plaster walls of isolation rooms. An ammoniated cleaning powder dissolved in a detergent solution is used on the block utility tile walls of the corridors.

For cleaning its thousands of

yards of window area, both inside and out, the hospital has contracted with an outside firm to do the job four times a year. This is currently on an experimental basis. The regular cleaning teams do occasional inside cleaning, using a sponge and clear water.

Some draperies go into the hospital laundry, as in the old building, but many require dry cleaning which, together with the upholstered furniture, presents new problems. So far vacuuming has taken care of the furniture, but cleaning experiments will be conducted when necessary. A wall-cleaning compound has proved useful for removing spots and stains from plastic-covered furniture, but only an abrasive cleanser has been successful on the white plastic desk tops. Wood furniture and woodwork, all with natural stain, are dusted with a dust-reducing cloth. A complete cleaning material will have to be found.

Toilet and washroom fixtures are cleaned with the same ammoniated powder as the tile floors. In extreme cases carbolic is used. In Sister Kathryn's book, "cleaning is the best deodorizer." Instruction and doing things the right way are the most important elements of a good job.

Liquid soap dispensers in the public washrooms, hard soap in the nurses' washrooms and for emergency patient use, and foot-operated dispensers for operating room hand-scrubbing, supply hand washing needs throughout the hospital.

A weekly check and treatment with insecticides is made by an outside firm under contract.

A special glasswashing soap powder is used for laboratory glass. When they have time, the maids help the nurses' aides with glass and utensil washing.

Equipment used for all this general cleaning includes: double mopping units with "Geerpres" wringers; and an industrial vacuum, which also sucks up water, for scrubbing and polishing household vacuums with 16" brushes for the

housemen and maids; soft push brooms; string mops; dust pans and brushes; pails; dusting cloths, rags and sponges.

Sister Maude Behrman, director of the Dietary Department, discovered that as her section settled into its new routine the cleanup work in the kitchens required fewer different products than were used in the old hospital. The kitchen serves an average of 18,395 meals a month. The Trayveyer system, electronically operated, which delivers food to the patient areas and returns soiled dishes, is cleaned and maintained under contract.

A strong non-sudsing powder detergent is used in the dishwashers. These machines give a pre-rinse before washing. Silver and glass are washed separately with special detergent washing powders for each.

The pot washers scrub utensils with an abrasive powder or the red soap which comes with steel wool pads, but they use one of the newer tough fiber pads as an applicator instead of steel wool. The same abrasive powder is used for cleaning tables and chairs. Stainless steel kitchen equipment is cleaned with a mild scouring powder.

The dishwashing detergent is used on wall tile and liquid soap from the hospital storeroom for the red tile kitchen floor and asphalt tile floor in the cafeteria. Mops and cloths are bleached.

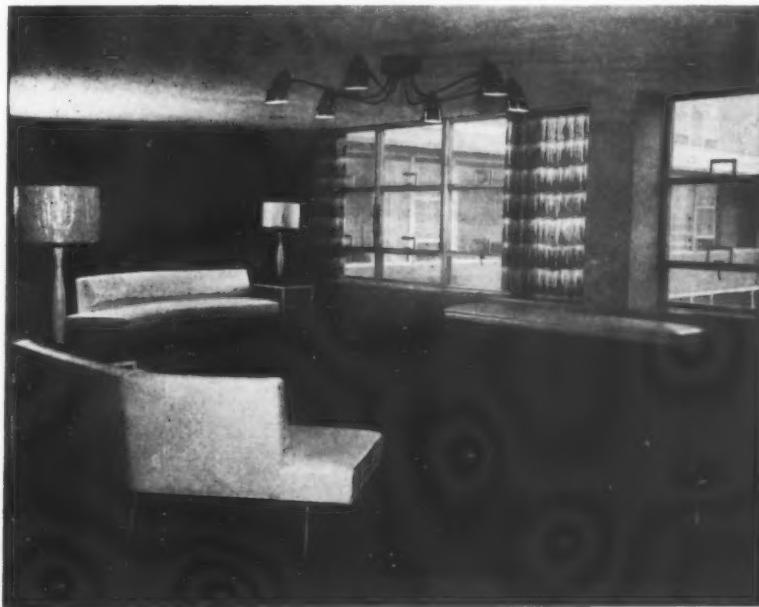
Training and supervision of personnel are most important in maintaining high standards of cleanliness in the kitchen, Sister Maude believes. She wishes that charts with line drawings of the right way to carry out kitchen jobs were available from manufacturers to help in the training program. Her assistant is in charge of training both new and old employees. The cleanup crew in this department is made up of two pot washers, one garbage man, one mop man, and 10 dish washers.

In the big laundry, which is completely automatic, Horace Smith, laundry manager, supervises 18 employees. All the washers have automatic controls, give five rinses after sudsing, run from 25 to 45 minutes, weigh out supplies exactly, and are geared to take liquid supplies.

Mr. Smith's washing solution is made up of 20 pounds of metasilicate detergent granules and

(Turn to Page 217)

The interior facilities of Lankenau Hospital are as modern as its exterior architecture. This is one of the waiting areas off the main lobby.



## Test methods for evaluating

# LIQUID DETERGENTS FOR

**T**HE importance of liquid detergents for household use is well known to those connected with the industry. The liquid synthetic detergents which were virtually unknown in 1948 had established an 80 million pound market valued at about \$25,000,000 in 1953. 1954 sales amounted to about 102 million pounds or an increase of about 25 percent. The potential commercial significance of such products is demonstrated by the estimate that these products within five years may have 10 percent of the total household detergent market. The consumer acceptance of liquid synthetic detergents has been due to their effectiveness and convenience

for hand dishwashing, which is their largest application.

There are two groups of manufacturers concerned with this liquid detergent market namely (1) the producers of basic materials used in making liquid detergents and (2) concerns which compound and merchandise the finished products. These two groups of manufacturers are well represented in the Soap Detergent and Sanitary Chemical Products Division of the Chemical Specialties Manufacturers Association.

The Scientific Committee of the Soaps & Detergents Division of the C. S. M. A. set up a program for investigating methods of evalu-

ating liquid detergents for hand dishwashing. The program was to consist of active participation on the part of all member concerns interested in the project. A successful project of this kind can only be achieved by cooperation of many laboratories and by examining many ideas. The C.S.M.A. Scientific Committee hoped to develop a method for evaluating liquid detergents for dishwashing which could be furnished to the industry as a proven testing method.

It is extremely important to use testing methods which will duplicate practical use conditions as much as possible. Such methods are invaluable to those concerns parti-

Table I. Summary of Dishwashing Test Methods in Use by Various Laboratories

| Soils Used                    | Method A  | Method B  | Method C   | Method D   | Method E  |
|-------------------------------|---|---|--|--|---|
|                               | 80% Crisco<br>20% Flour<br>Alizarine  | 90 g Edible Tallow<br>10 g Corn Oil<br>0.5 g Optical Dye                      | (a) Grease-Crisco<br>(b) Carbohydrate<br>200 g Evap. milk<br>20 g Dried egg<br>20 g Flour<br>100 g Water | 48% Crisco<br>50% Flour<br>2% Oleic Acid<br>0.5% Optical dye       | 50 g Crisco<br>12.5 g Flour<br>7.5 g raw egg<br>7.5 g butter<br>7.5 g mayonnaise<br>7.5 g tomato juice<br>7.5 g corn starch<br>Lampblack coloring |
| Amount of soil used per plate | 1/2 teaspoon (2.8 g.)   | 5 ml.   | (a) 5 ml.<br>(b) 6.5 ml.   | 2 teaspoons (8.2 g.)   | 8 grams   |
| Aging time for soil           | 20 min.   | overnight   | 2.5 hrs.   | no special aging   | 1 to 2 hours  |
| Vessel                        | large dishpan   | conventional dishpan  | conventional dishpan   | conventional dishpan   | battery jar   |
| Detergent Conc.               | 0.5%  | Desired   | 0.05%  | 0.10%  | 0.025%  |
| Amount of Soln.               | 4 liters  | 3 liters  | 6 liters   | 5 liters   | 12 liters   |
| Temp. of Soln.                | 113° F.   | 122° F.   | 120° F.  | 115°F  | 120° F.   |
| Agitation of wash solution    | 3 liters poured from 20"  |   | Added in conventional manner   | Agitated with wire screen  | 12 liters added from 30"  |
| Washing applied by            | Weighted rubber balloon   | Weighted utility brush  | Dishcloth  | Dishcloth  | Dishcloth   |
| Washing Technique             | Push with min. pressure till dish clean   | Wash at regular intervals with uniform brushing                               | Normal fashion   | Normal fashion   | Rapid succession with uniform agitation   |
| End-Point Data                | (a) Time required to wash 8 plates<br>(b) No. plates till foam disappears<br>(c) Emulsification | (a) No. plates till foam disappears<br>(b) No. plates to detergency end-point | No. plates washed till foam disappears   | No. plates till foam disappears<br>Soil removal checked with U. V. | (a) Initial height<br>(b) Height after washing 8 plates   |

# OR HAND DISH WASHING

cipating in producing liquid detergents because adequate testing procedures mean that constantly improved products will be made available to the consumer and the consumer will continue to buy and to favor products that give superior performance. Such a testing procedure or possibly several methods developed by cooperative work would be a valuable contribution to the entire industry.

At the June, 1952, C.S.M.A. meeting a sub-committee was set up to investigate methods for evaluating liquid detergents. Two things immediately apparent were: (1) a method approaching as nearly as possible practical dishwashing conditions was indicated and (2) foam producing and foam stability pro-

perties of the detergents were the criterions for such products. It must be pointed out that this committee, consisting of leading manufacturers, recognized that the criterion of effective detergents performance of household liquid dishwashing basically was the removal of a soil from a solid surface. The foaming qualities have little to do with the soil removal characteristics, but for these products, the consumer demands good foaming and good foam stability while the detergent is removing the soil. This does not mean that a product being poor on soil removal but giving an excellent foam would be satisfactory. It means that the detergent must have acceptable cleaning effectiveness, first of all and, in addition, it must

produce enough foam to satisfy the user. This qualification of the aims and intentions should be made. It was felt that while the method being sought should measure the more obvious qualities, it was assumed the detergent must perform well as a cleaner. It was hoped that some information on measuring dergency or cleaning effectiveness would be evolved and could be investigated later.

## Questionnaire Results

To begin with, a questionnaire was sent to each member of this section of the C.S.M.A. Scientific Committee asking what methods were used for foam evaluation in their respective laboratories, the degree of reproducibility of the meth-

Table II

T — Time, Secs., to wash 8 plates  
No. D — No. dishes washed to end point

|                              | Carbide<br>T<br>No.D | Economics<br>T<br>No.D | Emulsol<br>T<br>No.D | Gaf<br>T<br>No.D | Monsanto<br>T<br>No.D | Morton<br>T<br>No.D | U.S. Test.<br>T<br>No.D | Wyandotte<br>T<br>No.D |
|------------------------------|----------------------|------------------------|----------------------|------------------|-----------------------|---------------------|-------------------------|------------------------|
| Procedure 1, Soil A, 50 ppm  |                      |                        |                      |                  |                       |                     |                         |                        |
| Detergent #2                 | — —                  | — 16                   | 331 14               | 141 18.5         | — —                   | 240 15              | 110 11                  | 133.6 27.0             |
| Detergent #3                 | — —                  | — 12                   | 365 8                | 138 13           | — —                   | 248 10.5            | 120 12                  | — —                    |
| Detergent #4                 | — —                  | — 12                   | 395 9                | 132 15           | — —                   | 293 10.5            | 150 10                  | 133.0 13.4             |
| Detergent #1                 | — —                  | — 10                   | 423 7                | 147 10           | — —                   | 255 7.0             | 150 9                   | — —                    |
| Procedure 1, Soil A, 300 ppm |                      |                        |                      |                  |                       |                     |                         |                        |
| Detergent #2                 | 465 25               | — 16                   | 330 16               | 135 22           | 265 17.5              | 243 21              | 160 11                  | — —                    |
| Detergent #3                 | 265 14               | — 14                   | 353 8                | 144 16.5         | 254 11                | 233 13.5            | 170 9                   | — —                    |
| Detergent #4                 | 281 17               | — 14                   | 460 8                | 123 14           | 226 12.5              | 240 13              | 150 10                  | — —                    |
| Detergent #1                 | 339 13               | — 10                   | 430 9                | 144 14.5         | 282 11                | 248 10              | 160 8                   | — —                    |
| Procedure 1, Soil B, 50 ppm  |                      |                        |                      |                  |                       |                     |                         |                        |
| Detergent #2                 | — —                  | — 18                   | 385 15               | 114 26           | — —                   | — —                 | 95 22                   | — —                    |
| Detergent #3                 | — —                  | — 14                   | 323 9                | 102 16           | — —                   | — —                 | 105 14                  | — —                    |
| Detergent #4                 | — —                  | — 12                   | — —                  | 96 20            | — —                   | — —                 | 100 14                  | — —                    |
| Detergent #1                 | — —                  | — 8                    | 319 7                | 108 13           | — —                   | — —                 | 105 13                  | — —                    |
| Procedure 1, Soil B, 300 ppm |                      |                        |                      |                  |                       |                     |                         |                        |
| Detergent #2                 | 152 25               | — 14                   | 300 16               | 96 30            | 198 20.5              | — —                 | 100 20                  | — —                    |
| Detergent #3                 | 202 16               | — 12                   | 330 10               | 102 18           | 192 13.0              | — —                 | 100 14                  | — —                    |
| Detergent #4                 | 154 20               | — 12                   | — —                  | 108 20           | 191 12.0              | — —                 | 100 12                  | — —                    |
| Detergent #1                 | 132 30               | — 8                    | 330 7                | 108 21           | 194 10.0              | — —                 | 115 12                  | — —                    |
| Procedure 1, Soil C, 300 ppm |                      |                        |                      |                  |                       |                     |                         |                        |
| Detergent #2                 | — 28                 |                        |                      |                  |                       |                     |                         |                        |
| Detergent #3                 | — 15                 |                        |                      |                  |                       |                     |                         |                        |
| Detergent #4                 | — 18                 |                        |                      |                  |                       |                     |                         |                        |
| Detergent #1                 | — 21                 |                        |                      |                  |                       |                     |                         |                        |

Table III

S — Suds, No. dishes washed to suds end-point  
 Det — Detergency — No. dishes washed to detergent end point

|                                     | Carbide<br>S<br>Det | Economics<br>S<br>Det | Emulsol<br>S<br>Det | Gaf<br>S<br>Det | Monsanto<br>S<br>Det | Morton<br>S<br>Det | U.S.<br>S<br>Test<br>Det | Wyandotte<br>S<br>Det |
|-------------------------------------|---------------------|-----------------------|---------------------|-----------------|----------------------|--------------------|--------------------------|-----------------------|
| <b>Procedure 2, Soil A, 50 ppm</b>  |                     |                       |                     |                 |                      |                    |                          |                       |
| Detergent #2                        | —                   | 17                    | —                   | —               | 8                    | 17                 | —                        | —                     |
| Detergent #3                        | —                   | 12                    | —                   | —               | 6                    | 9                  | —                        | —                     |
| Detergent #4                        | —                   | 11                    | —                   | —               | 6                    | 13                 | —                        | —                     |
| Detergent #1                        | —                   | 7                     | —                   | —               | 5                    | 12                 | —                        | —                     |
| <b>Procedure 2, Soil A, 300 ppm</b> |                     |                       |                     |                 |                      |                    |                          |                       |
| Detergent #2                        | 9                   | 8                     | 22                  | —               | —                    | 10                 | 7                        | 8                     |
| Detergent #3                        | 11                  | 8                     | 12                  | —               | —                    | 7                  | 13                       | 4                     |
| Detergent #4                        | 13                  | 9                     | 10                  | —               | —                    | 7                  | 17                       | 31                    |
| Detergent #1                        | 5                   | 1                     | 4                   | —               | —                    | 5                  | 10                       | 3                     |
| <b>Procedure 2, Soil C, 50 ppm</b>  |                     |                       |                     |                 |                      |                    |                          |                       |
| Detergent #2                        | —                   | —                     | 11                  | 4               | —                    | 9                  | 4                        | —                     |
| Detergent #3                        | —                   | —                     | 9                   | 3               | —                    | 9                  | 2                        | —                     |
| Detergent #4                        | —                   | —                     | 4                   | 3               | —                    | 4                  | 3                        | —                     |
| Detergent #1                        | —                   | —                     | 4                   | 1               | —                    | 5                  | 8                        | —                     |
| <b>Procedure 2, Soil C, 300 ppm</b> |                     |                       |                     |                 |                      |                    |                          |                       |
| Detergent #2                        | 9                   | 3                     | 12                  | 4               | —                    | 10                 | 6                        | 10                    |
| Detergent #3                        | 9                   | 5                     | 9                   | 3               | —                    | 13                 | 5                        | 7                     |
| Detergent #4                        | 4                   | 2                     | 4                   | 2               | —                    | 5                  | 7                        | 3                     |
| Detergent #1                        | 5                   | 1                     | 3                   | 1               | —                    | 5                  | 8                        | 4                     |

od(s), correlation with other methods and comments concerning foam testing techniques.

Of the fifteen concerns replying—

- (a) Four use three or more test methods.
- (b) Five use two methods.
- (c) Six use only one method.

Of the methods in use by these concerns—

- (a) Eight use the Ross-Miles test.
- (b) Five use a graduated cylinder method.
- (c) Three use a dynamic shaker or stirrer.
- (d) Three use a dishpan method.
- (e) Three use large equipment.

These replies give a very good overall picture as to the number and kinds of different methods employed by various laboratories used for foam measurement. From this survey, there was no doubt as to the merits of the Ross-Miles test as a laboratory method which has excellent reproducibility within itself for control work or evaluation of the same kind of foaming agents. Seven of the eight concerns using this method report good reproducibility for and within the method. It was pointed out by those labora-

tories using several methods that it is hardly feasible to expect a laboratory method (like the Ross-Miles method) to be correlated with so many diversified applications such as dishwashing, laundering, metal cleaning, etc. For a product being specifically directed to such fields, test methods must be used which set up conditions more nearly simulating those found in actual practice.

#### Purpose of Work

**S**INCE the purpose of this committee work was to investigate methods of foam measurement of liquid detergents for hand dishwashing, laboratories were contacted which use a dishpan method and soiled dishes for test work. The methods which were used are summarized in Table I. The methods being used as shown in Table I were reported to have very good reproducibility within each laboratory. It can be seen that these methods, while generally the same, have some basic differences.

The methods which are shown in Table I were furnished by: Bon Ami Co., Economics Laboratories, General Aniline & Film Corp., Hercules Powder Co., Monsanto Chemical Co., Ninol Laboratories, and

Foster D. Snell, Inc. All methods were not shown in Table I because of similarity of techniques.

#### Cooperative Test Program

**T**O start the joint test program, two procedures were chosen which seemed to incorporate many desirable features. The two procedures are described in detail as follows:

##### Procedure 2

1. Preparation of Test Pieces — wash dinner plates thoroughly to remove all visible soil using an alkaline detergent and hot water. Dishes must be thoroughly rinsed and clean. Dry in oven at a temperature of about 80-85° C. Soil plates while they are still warm to facilitate even distribution of soil.

2. Preparation of Soil—prepare soil consisting of a mixture of 90 parts Swift's edible grade tallow, 10 parts of Mazola corn oil and 0.5 part Calcofluor RWP. Heat in a water bath to 70° C. stir to dissolve the dye completely, and maintain at this temperature during time of use.

Since different lots of fats vary some in composition and ease of removal, a large supply should be purchased at one time in order to have a uniform supply from one test to another. Each new sample of fat should be checked against a reference dishwashing detergent if a relative value is desired. A titre of 42.2° on the mixed fats was found to give proper consistency.

3. Soiling of Plates—place 5.0 ml. of the soil on warm plate (50-60° C). Rotate

*Procedure I*

|   |  |
|---|--|
| Surface : Regular dinner plates, approximately 9" diameter. |  |
| Soil:   | "A"  |
| 48% Crisco  | 50 pts. Crisco*  |
| 50% flour   | 12.5 " flour   |
| 2% Oleic acid   | 7.5 " raw egg  |
| 0.05% Fluorescent   |  |
| Green H. W. 185%  |  |
| 7.5 " butter  |  |
| 7.5 " mayonnaise  |  |
| 7.5 " tomato juice  |  |
| 7.5 " corn starch   |  |
| *colored with 0.05% oildag or lampblack                     |  |
| Amount of soil:   | one teaspoon   |
| Soil applied:   | warm (100-120°F)   |
| Aging time:   | spread evenly  |
| Dishpan:  | one hour   |
|   | conventional   |
| <i>Washing Solution</i>                                     |  |
| Detergent conc.   | 0.10%  |
| Amount of water   | 4 liters   |
| Water hardness  | 50 ppm (soft)  |
| Temperature of water  | 300 ppm (hard)   |
| Method of adding water:                                     | Dissolve detergent in 1 liter of 115° F water in pan. Add three liters from a height of 24 ins. above pan through a $\frac{1}{2}$ gallon funnel. Let stand 30 seconds. |
| Applicator:   | Dishcloth  |
| Technique:  | Place two soiled plates in pan at one time. Wash in normal fashion.  |
| Data:   | Record the length of time required to wash 8 dishes. Continue washing until foam disappears.   |

plate to spread fat on the entire bottom of the plate. Let harden on a level surface and let stand overnight at room temperature. Preferably use plates aged just one day.

**4. Preparation of Wash Solution**

- a. Add proper amount of detergent for three liters of use solution to a dry dishpan.
- b. Pour 3 liters warm water (50° +

$\frac{1}{2}$ C) through a funnel supported by a ring stand; use a 7/16" inside diameter straight, short stem funnel placed at a height of 26" from the bottom of the dishpan.

Uniformity of initial suds is obtained, and the detergent is given an opportunity to dissolve by this procedure.

c. Rotate dishpan slowly through two

complete 360° turns while filling the dishpan to help dissolve the detergent. Measure and record temperature of solution.

**5. Washing Test Pieces**

- a. At zero time, place a solid test piece with the eating surface up in washing solution in dishpan.
- b. After 55 seconds soaking, place a second soiled test piece underneath the first one using a stainless steel or rubber covered 1" mesh screen of suitable strength to keep the two test pieces from touching each other.
- c. At exactly 60 seconds from zero time hold the first test piece by the edge with the left hand and brush five times (with a rotary motion) with a weighted utility brush in one direction and five times in the reverse direction. Invert the plate and repeat this brushing operation on the back side of the plate.
- d. In order to provide uniform brushing, a weighted brush is used. No extra force is used other than to provide the rotary motion. The handle is sawed off from a "No. 50 utility brush" and lead weight is attached by means of two brass screws. Total weight of brush and lead weight is  $3\frac{1}{4}$  pounds. The brush is presoaked in water for 30 minutes before using.

- e. The entire brushing procedure should be timed so that it is completed in between 22-25 seconds. (This allows about one second for each complete rotation of the brush.)

- f. Rinse test piece for a total of five seconds under cold running water. A running cold water rinse is used as the cold water supply is

(Turn to Page 241)

**Table IV**

| Laboratory                           | Number Tests | Number Dishes Washed with Detergent | Deviation or Reproducibility |
|--------------------------------------|--------------|-------------------------------------|------------------------------|
| B. T. Babbitt                        | 10           | 21.6                                | 11.1                         |
| B. T. Babbitt                        | 4            |                                     | 1.12 (95%)<br>1.8            |
| Carbide & Carbon (1)*                | 6            | 23                                  | 13                           |
| Carbide & Carbon (2)                 | 6            | 19                                  | 10                           |
| Carbide & Carbon (3)                 | 6            | 21                                  | 11                           |
| Economics Labs<br>1/2 Suds End-Point | 3            | 14                                  | 6                            |
| No Suds End-Point                    | 3            | 18                                  | 9                            |
| General Aniline                      | 3            | 18                                  | 10.3                         |
| Monsanto (1)                         | 2            | 17                                  | 7                            |
| Monsanto (2)                         | 2            | 17                                  | 9                            |
| Morton Mfg. (1)                      | 4            | 15.5                                | 6.6                          |
| Morton Mfg. (2)                      | 2            | 16                                  | 5.25                         |
| Rohm & Haas (1)                      | 2            | 14                                  | 6                            |
| Rohm & Haas (2)                      | 2            | 12                                  | 5                            |
| Foster D. Snell                      | 4            | 15.7                                | 1.12                         |
| Stepan                               |              | 14                                  | 1.0                          |

\*Numbers indicate more than one operator using the test.

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# Packaging NOTES

## New Ideas Highlight Packaging Show

A HOST of new packaging developments were viewed and discussed at the 24th National Packaging Exposition and Conference of the American Management Association held in Chicago, Apr. 18-21. A record turnout of 30,000 visited the International Amphitheatre for the Exposition where 400 exhibitors occupied 140,000 square feet of floor space. The nearly three and one-half acres of exhibits were devoted to showing and demonstrating equipment, materials and services for the packaging, packing and shipping of consumer and industrial goods.

In addition to seeing packaging techniques in action, packaging executives from all parts of the U. S. heard specialists discuss every aspect of packaging, shipping and materials handling at the National Packaging Conference, held in the Palmer House, Apr. 18-20. Some 1,000 conference registrants heard 50 speakers at the three-day meeting. Among the speakers were: Lowell A. Ledgett, assistant chief engineer of Colgate-Palmolive Co., Jersey City, who spoke on "An Approach to Automation through Instrumentation of Automatic Machinery." "Integration of Warehousing and Order Selection" was discussed by H.R. MacDonald, warehouse superintendent at Hammond, Ind., for Lever Brothers Co., New York.

W. L. Romney, technical director of packaging for Procter & Gamble Co., Cincinnati, is AMA vice-president in charge of the packaging division.

Other topics of interest included discussions of what the retailer wants in household packages; "Packaging Problems of the Retail Drug Trade," by Paul C. Olsen, director of marketing research for *Drug Topics* and *Drug Trade*

*News*, New York City; equipment needed to test packages, and "Increasing Efficiency through Integrated Change-Over Units." The latter paper was presented by R. V. Thompson, production methods department, Eli Lilly and Co., Indianapolis, Ind.

Other papers of interest included "The Testing of Consumer Packages," by C. M. Woodcock, Jr., section head, packaging research section, General Foods Corp., Hoboken, N. J.; and "New Demands in Packaging Drugs, Toiletries and Cosmetics," by F. B. Kienzle, district vice-president, McKesson & Robbins, Inc., Chicago.

### Cutting Warehouse Costs

SPEAKING before a session on "How to Cut Costs in Warehousing Materials Handling," H. R. MacDonald of Lever Brothers Co., in Hammond, Ind., described the system used in the new Lever Hammond warehouse to reduce the cost of handling finished products once they have left the case sealer. "Order picking is the end point in what we feel is a step toward an integrated material handling system—only recently developed and

H. R. MacDonald of Lever Brothers Co. spoke on cutting warehousing costs.



installed—and to that extent is still in the 'smoothing out' process," Mr. MacDonald stated.

As part of Lever's plan to expand its plant warehousing facilities, it was decided to "construct on the plant site a complete distribution center replacing public warehouse space and to include in this warehouse the most modern of material handling equipment available in an effort to reduce to a minimum the handling of product."

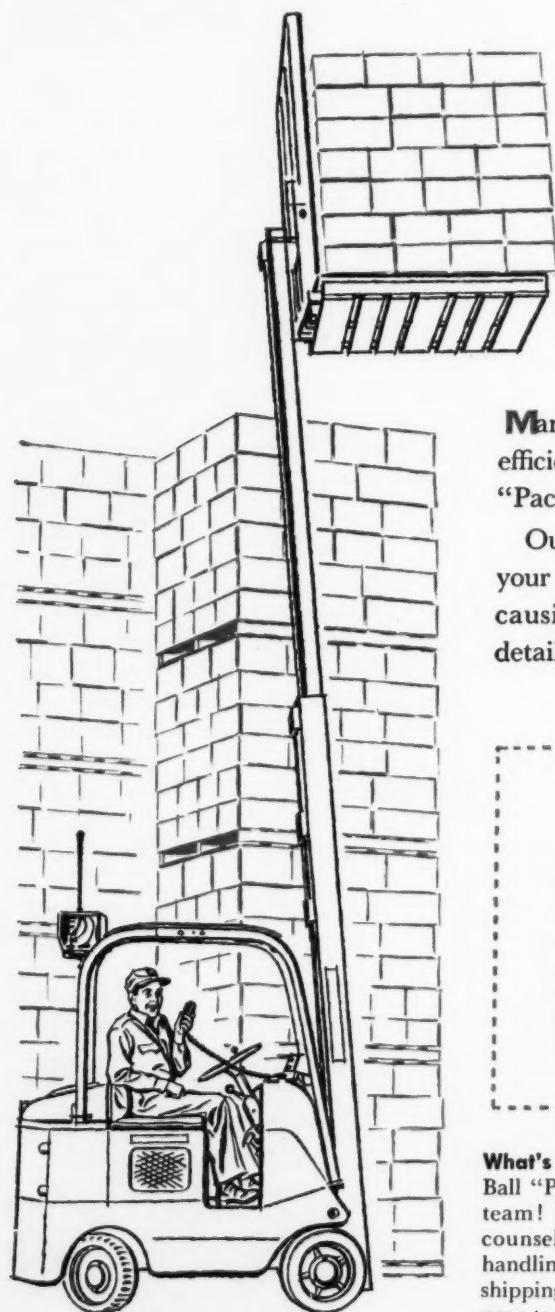
The development of a method of conveying products from the production departments to a central area where an automatic pallet loader was installed was the big problem in setting up a material handling system, according to Mr. MacDonald. All products had to be separated according to pack prior to handling by the automatic pallet loader. The only way this could have been accomplished was by running separate conveyor belts but this would have been unnecessarily expensive in the duplication of conveyors for a distance in excess of 800 feet and also in loss of head room. The solution which was adopted to accomplish this goal was one which experience has proved to be entirely satisfactory, Mr. MacDonald said.

It operates in the following manner. At each of the transfer points the live rollers are twice as wide as they are throughout the remainder of the conveyor and lo-

W. L. Romney, Procter & Gamble Co. AMA vice-pres., heads packaging div.



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● One midwest food packer *thought* he carried only a 9-day supply of empty jars; yet he was crowded for storage. A Ball materials handling specialist found up to a 90-day inventory on some containers. Recommendation: daily deliveries, shipments going direct from trucks to filling lines; 2-day emergency reserve. Ball Radio-Controlled Shipping Center made this feasible. Result: estimated annual saving of \$22,000.

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cated beneath the wider live rolls are five V-belts continuously running in a direction perpendicular to that of the conveyor travel. The V-belt array is movable vertically. When it is determined that a given case is to be separated from the others at any one of the transfer points, the V-belts rise between the live rollers, engage the case and transfer it laterally out of its previous path. The V-belt table automatically returns to its lower position in time to clear the next case and, as it does, the case which has been diverted is no longer supported by the V belts but is lowered to the live rollers which now push the case off onto a spur line leading to the accumulators.

#### Automation in Packaging

LOWELL A. Ledgett, assistant chief engineer of Colgate-Palmolive Co., Jersey City, N. J., pointed out that the most significant element of newness in packaging equipment is the combination of instrumentation and automatic machinery as partners in automation. His subject was "An Approach to Automation through Instrumentation of Automatic Machinery." Although the use of automatic machines is not new in the chemical process field, he said, what is new is the application of the digital and/or analog computer to optimize instrumentation control for high quality at low cost. This is achieved through measurement of all significant variables and product quality factors as intelligence in a multiple coupled closed loop feed-back control system.

In answer to the question "Will automatic control machinery pay off," Mr. Ledgett pointed out that only a complete analysis of each application can furnish the answer on whether the net return on results attainable will prove attractive. An important point is that in addition to economic justification the return can be high from product quality control advantages. Instrumentation can be justified by improved performance over manual quality control sampling, checking

and rejecting, analogous to the justification of automatic machinery to improved performance over hand operations.

Shipping containers can serve a real marketing function in any industry, F. B. Kienzle, district vice-president of McKesson & Robbins, Inc., Chicago, pointed out. This finding by the National Wholesale Druggists Assn. was made in an effort to determine just what shipping containers should do for the manufacturers' products. He also stressed the importance of proper marking to save money for manufacturers, distributors and dealers.

A 10-point yardstick for use in evaluating a package for sale through variety stores was suggested by E. J. Renowden of F. W. Wool-

worth Co., New York. The product or illustration of it should show up to maximum possible advantage. All six sides should be used to do a complete, informative selling job. The package should answer such customer questions as: What is it made of? How is it used? How much is in it? Why is it better? The package should standout from its competition in mass or shelf display. Brand identity should be strong. The package should imply a quality product. The package should be convenient for the retailer, easy to arrange and stack and with a price spot correctly located. The package should adequately protect the product. Directions should be simple and illustrated. The package should be convenient for consumer needs.

#### New Liquid Detergent Can

The development of a 12-ounce "Fluid Flow" can with a threaded dripless polyethylene nozzle that is especially designed for packaging liquid detergents was announced late last month by Continental Can Co., New York. The new container, which comes in a 211 x 508 size, is also adaptable for the packaging of many types of chemical specialties, including those that may be corrosive. The construction of the new can provides the low metal exposure features that are necessary to the successful packaging of such products. Many hard-to-hold products that could not previously be packaged in metal may now be packed in Continental's new "Fluid Flow" container.

The tall dripless nozzle, made from polyethylene, permits an even pouring flow and furnishes an abrupt, exact cut off when pour is completed. The polyethylene nozzle can also be provided in colors to match closely the can or decorative design employed in can lithography.

The can's seam is cemented with thermo-plastic cement which furnishes a leakproof container and, at the same time, permits complete wrap around lithography for the can

body. The can dome can be furnished plain, coated or lithographed in colors.

Special enamel linings have been perfected for the interior of this container by Continental to provide protection for corrosive-type products. They can also furnish a resistant varnish for application to the exterior of the domes and bodies of the containers to prevent any marring of the container appearance if the product is spilled on the exterior of the can during filling and other operations.

New plastic spout detergent can.



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Novel method of applying "Spot Weed Killer" was announced recently by Bridgeport Brass Co., Bridgeport, Conn. Utilizing a 12-ounce "Spray-Trainer" of the Can Division of Crown Cork & Seal Co., Philadelphia, the unit has an exclusive control cone and 28 inch cane that snaps to bottom of the aerosol can. The cone is placed over the weed and by pressing down on the cane the weed killer is injected into the plant.



Newest method of applying paradichlorobenzene to mothproof woolens is "Frostex" aerosol dispenser of Lewy Chemical Co., New York. Two products of Dow Chemical Co., Midland, Mich., are used in the formulation: "Paradow," Dow's brand of paradichlorobenzene, which is suspended in Dow's 1,1,1-trichloroethane solvent. "Genetron" propellant of General Chemical Division, Allied Chemical & Dye Corp., New York, is also used.



Another new mothproofer is "Gulf Trak", a product of Gulf Oil Corp., Pittsburgh. New 12-ounce aerosol dispensed insecticide uses "Perthane," new, odorless insecticidal ingredient of Rohm & Haas Co., Philadelphia. The moth proofer is also available in non-pressurized quart and gallon cans for dispensing by electric or hand operated sprayers. Besides moths, "Trak" can be used against roaches, silverfish, ants, centipedes, fleas and spiders.

## New Aerosol Products

New high pressure industrial aerosol insecticide of Tru-Pine Co., Chicago, is packed in 12-ounce spray-containers. "Sprayway 55 Hi Pressure" aerosol insecticide is available to sanitary supply distributors, pest control operators and paper supply houses. The formula includes pyrethrum with piperonyl butoxide. Formula is designed to control flies, mosquitoes, fruit flies, cereal moths, roaches, silver fish and other insects in bakeries, breweries, canneries, dairies, frozen food lockers, markets, meat packing plants, stores, restaurants, hotels, and other establishments where food is handled.

Currently being introduced by Boyle-Midway, Inc., New York, is "Ridz" dog repellent in an aerosol dispenser. Packaged in a 12-ounce lithographed aerosol can, the product retails for \$1.49. "Ridz" is designed to keep dogs, cats and other animals away from tree trunks, shrubs, hedges, fence posts, automobile tires, trash cans, hydrants, and other outdoor objects. It is a harmless spray, which features a special sticking agent that is stable to heat, sun and rain. Product is harmless to plants and will not blister paint, according to the maker. Counter display unit for "Ridz", shown at right, is available for

food markets, drug, hardware, nursery, variety and department stores.

Freedom from sticking combined with ease of application is a feature of "Slipcone Spray" a new aerosol spray form of "Slipcone," silicone release agent of Dow Corning Corp., Midland, Mich., for heat sealing equipment. A 12-ounce container retails for about \$2.00. Claimed to be unaffected by temperatures ranging from -40 to over 400 F, "Slipcone" forms a pure silicone parting surface that prevents adhesives, foods, paints, plastics and waxes from sticking to metal or glass surfaces.





Counter display for new "Whipped Drene" shampoo of Procter & Gamble Co., (left), was designed by Richard Koppe of P&G, in collaboration with Donald Deskey, New York designer. First P&G aerosol product is packed in glass. Bottles by Wheaton Glass Co., Mays Landing, N.J.

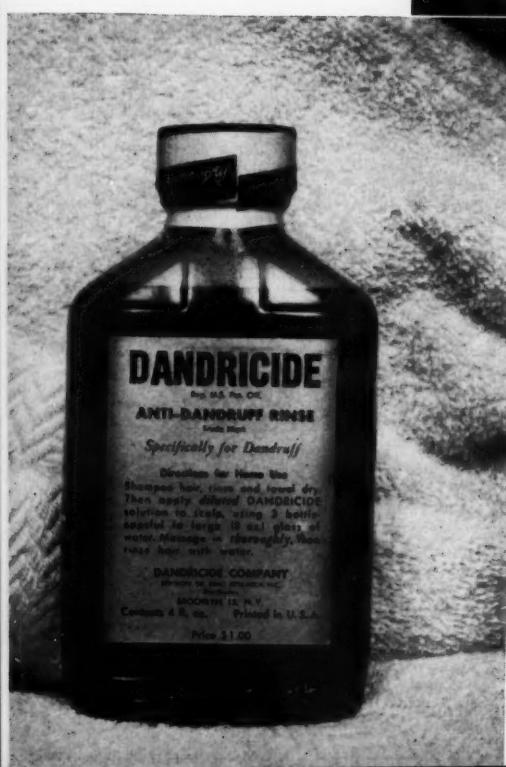
New, decorated, semi-round bottles of functional design are now used to package "Wizard Wick Deodorizer" of Boyle-Midway, Inc., New York. Front and rear views of bottle are shown left and right, respectively. Flat, labeled surface can be turned to wall to hide fact that deodorizer is in use. Bottles and metal closures are by Owens-Illinois Glass Co., Toledo, Ohio.



"Cope", right, new waterless hand cleaner in yellow metal tube with black letters was announced recently by Utility Co., New York, maker of "Gre-Solvent". Product contains lanolin.



To repack its line of furniture polishes, deflagers and window cleaners Boyle-Midway, Inc., New York, is using straight-side, decorated round bottles in 4, 8, 16 and 24 ounce capacities. Old-style oblong bottle formerly used is at extreme left. Horizontal rim make for easier gripping. Containers have lithographed metal closures. Bottles by Owens-Illinois, which also supplies metal screw-type closures. Wrap-around labels by H. F. Deammer Co. and Dublin & Dublin Co.



"Dandricle", rinse (left) to be used after hair shampooing as an aid in elimination of dandruff is being marketed by King Research, Inc., Brooklyn. Previously packaged for professional trade in 16 ounce and 1/2 gallon sizes, new four ounce bottle by Brockway Glass Co., Brockway, Pa., will be sold in retail market. Caps by Armstrong Cork & Seal Co.; 'Cel-O-Seal' by du Pont, labels by Gardner Newman and display cartons by Robert Gair Co., New York.



# What's New?

"Sta-Puf" (right), new laundry rinse which is claimed to make clothes soft, fluffy and easier to iron because they dry wrinkle-free, was announced recently by A. E. Staley Manufacturing Co., Decatur, Ill. The new rinse is added to rinse water of washing machines or to basins or tubs for hand wash. Quart size bottle retails for 49 cents; half gallons are 89 cents.

Three new "Sue Pree" products (below): "New Luxury Shampoo", "Beauty Lotion" and three-purpose kitchen lotion were introduced recently by Superior Products Co., Dallas, Tex. Ten ounce bottles with easy-gripping features and plastic caps are by Owens-Illinois Glass Co., Toledo. Labels by Powell Printing Co., Dallas. Basic label designs were developed by B. Dwight Fuerst, Owens-Illinois designer.



Non-breakable, green plastic squeeze bottle (below) was designed for "Shampoo for Men", the newest addition to the line of Mennen Co., Morristown, N. J. Bottle was designed by Mennen in collaboration with Design Associates, New York City. Package features no-slip gripping surface, front and rear. Raised letters are part of no-slip feature, adding rough texture to package.



New pyrethrum type insect spray (right), trade named "Poka-Dot," and especially designed for use by the food industry was announced recently by Chemical Manufacturing Co., Cleveland. Claimed to be fast acting, odorless, non-toxic and effective for controlling crawling and flying insects. Free electric vibrator sprayers are offered with orders of 15 gallons and up.



Waverly Petroleum Products Co., Philadelphia, introduced a new, all-purpose oil and grease absorbent for floors, (right), designated "Waverly Hi-Dri". The absorbent is claimed to be especially useful in chemical and petroleum processing plants. Product is said to protect against fire and slipping accidents and fire hazards. Effective on all types of floors, "Hi-Dri" does not readily pulverize, break down, or cake under heavy traffic conditions, nor turn to mud when wet, according to its maker.



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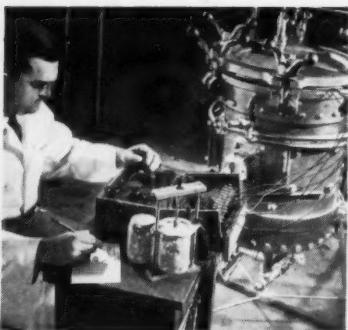
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# OWENS-ILLINOIS ASSURES YOU A



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Pure research into formulae and fabrication of glass, packaging research into processing and handling methods in customer plants, and market research into consumer attitudes, add up to greater specific value for your packaging dollar.



Engineered Design

The package that takes your product to market must take *three* needs into account. Considerations of its function in the retail store, its operating efficiency and its consumer utility all become a part of the prescription for an Owens-Illinois package.



The Right Container

Facilities at Owens-Illinois are versatile. Talents are varied and many. So you can count on obtaining a container exactly suited to your needs—one that blends salesmaking beauty, product protection and utility in the proportions required to attract customers.

## Hard-working Hypochlorite



# COMPLETE PACKAGING APPROACH



The Right Closure



Needed Fitments



Modern Cartons

Know-how as to the best available liner and closure—best for packing, displaying, or using a specific product—may well be one of the most important single points through which expert packaging counsel will reward you many times over.

With emphasis on the word "needed," Owens-Illinois specialists are keenly aware of sales benefits possible through use of plastic shaker and pour-out fitments which are not "gadgets" but which increase consumer satisfaction with your product.

Modern cartons are developed only through systematic consideration of their opportunity to serve you in the retail store and retail warehouse as well as on your own filling line and in transit. Owens-Illinois is pioneering such developments.

## or Gleam-making Polish-



*there's an Owens-Illinois  
Package that Sells  
while it Protects*

Your product gets an extra sales "lift" when it comes in a well planned package.

Such a package catches a customer's eye more quickly. It protects its contents—maintains the quality through many openings

and closings, and it is convenient to handle and use.

All this adds up to a *salespackage*—the kind of packaging Owens-Illinois has planned and produced for decades.

No matter what the character of

your product might be, you can call upon Owens-Illinois, confident that you will receive the help of a marketing-minded supplier ready to provide glass containers of all types, capacities and designs, both stock and custom-made.

DURAGLAS CONTAINERS  
AN **I** PRODUCT

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GENERAL OFFICES • TOLEDO 1, OHIO

# There's a **PLAX** Package with the ideal **COLOR** for merchandising your product



Rainbow choice is yours . . . opaque for concealment . . . translucent for enhancement . . . natural for giving colored fluids or powders a silky sheen. Color as you want and need it for identification, appeal, atmosphere.

PLUS these extras: lightweight, unbreakable package that can save you hundreds of thousands of dollars in shipping costs; the precise dispensing action that's best for your product, whether it's a spray, drop-by-drop, controlled pouring or direct application. See Plax for the best in convenience packaging.

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IN CANADA: Plax Canada, Ltd., Montreal and Toronto

A large, bold, stylized word "PLAX" is written in a font where each letter is contained within an oval shape. Dark liquid droplets are shown falling vertically from the top left towards the letters, some hitting them. The letters are white with a black outline.

In plastic bottle packaging, only Plax offers continuous research, complete design service, and long experience.



TWO-STORY TEST DROP in Gair container starts here.

CERAMIC MUGS plunging to pavement in novel test.

NO BREAKAGE after Gair container hits pavement.

# Ceramic mugs tumble two stories - no damage!

**New shipping container  
holds breakage claims  
to phenomenal 0.035%**

That's the happy ending to L. G. Balfour Company's long search for the safest practical way to ship ceramic mugs.

General Manager Ed Holder faced a twofold packaging problem. First, ceramic mugs need a lot of protecting in transit. Second, the package had to take three different styles and sizes of mugs.

Gair came up with the answer to both problems with one ingeniously die-cut interior packing piece which cushions the mugs from all shocks. Out of 150,000 units shipped in the new container, only 53 breakage claims have been made. Also, since no partitions have to be set up and no excelsior or paper-stuffing is used, one packer now does the work of four previously required.

Whether it's protection, display or delivery you're looking for in a shipping container, Gair has the experience and facilities to give it to you. Write us.

SC.5.1

**GAIR CONTAINER PLANTS:** Atlanta, Ga. • Cambridge, Mass. • Cleveland, Ohio • Holyoke, Mass. • Los Angeles, Cal. • Martinsville, Va. • No. Tonawanda, N. Y. • Philadelphia, Pa. • Plymouth, Mich. • Portland, Conn. • Richmond, Va. • Syracuse, N. Y. • Teterboro, N. J.



**GAIR**

SHIPPING CONTAINERS

FOLDING CARTONS • PAPERBOARD

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SPATTERDASH OF INK COLOR  
... ink drum lid photographed  
in a Gair Folding Carton Plant.

## With the right colors, your carton speaks up!



Some cartons talk up to the shopper — others just mumble.

At Gair you can count on getting the first type. For one thing, we take a long look at your marketing set-up by means of a Gair Package Analysis\*. Then we know what we're shooting for when your carton arrives in our printing department.

But finding the exact colors to make your carton speak up also takes a deep knowledge of printing inks, plus a patient willingness to keep mixing them — till suddenly they're right. Colors that are only "pretty close" to right won't do on the nation's self-service counters where your product carton is on its own.

\*Gair Package Analysis is the unique service which blue-prints a successful carton for your product. Your nearest Gair office will be glad to have a representative call. No obligation, naturally.

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creative engineering in packaging



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**For moving dry and viscous chemicals—**

*We have  
the formula*



Continental's steel containers give you the right combination of strength, lightness and convenience. Let our master lithographers add your name or trademark in glowing colors, and you have packaging that will do your chemical products proud.

Call on us for pails and drums in 2 to 12 gallon capacity, flaring pails that hold 3½, 4, 5 or 7 gallons; also 2½ and 5 gallon utility containers. We're always ready to discuss special containers for special purposes. Let us tailor our service to your order.



Besides light and heavy gauge steel containers, Continental makes a full line of "F"-style, plug top and conventional cans. Order all your needs at one time. Make up a mixed car-load and save in warehouse space, shipping and inventory costs.

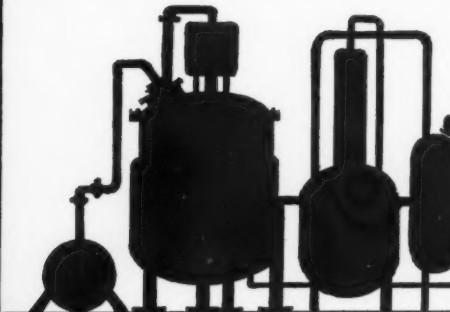


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If you require a Triple Pressed Stearic Acid with large crystals for sheen, Century 1240 will meet your requirements. If you prefer a smaller crystal material, Century 1230 is the grade for you.

If white esters of Double Pressed Stearic are your desire Century has Double Pressed Stearic (1220) which will give you such white esters and without bleaching.

If color is important in your Oleic Acid requirements for shampoos, etc., Century has a grade to meet your needs. Whether it be a certain color of standard distilled oleic or a water white double distilled, Century has the product to meet your requirements.

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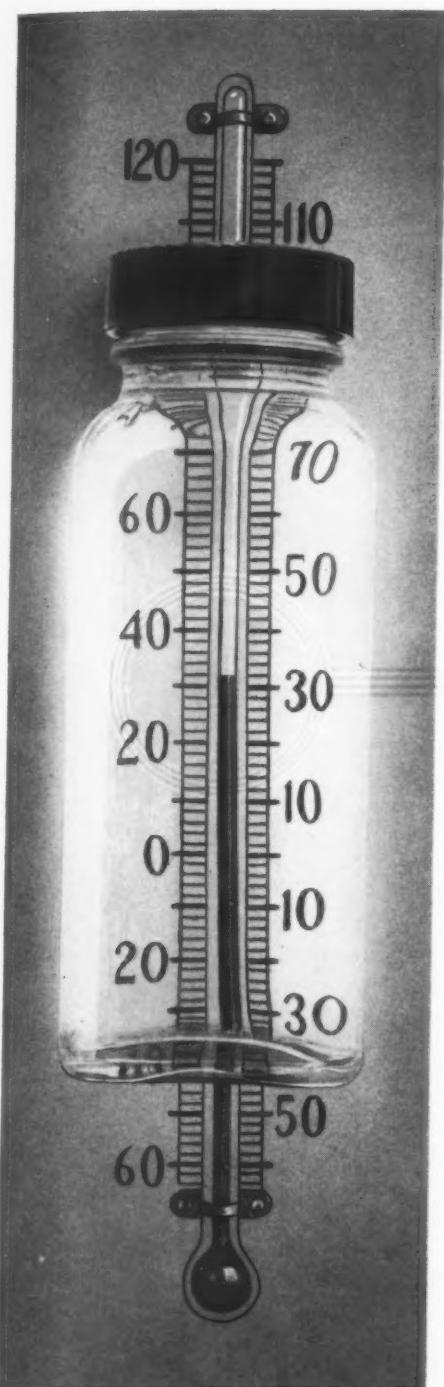
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There's no cold-weather haze-hazard when you base your liquid soap or shampoos on Nacconol 60S. It stays clear right down to 32°F!

Other good reasons to use Nacconol 60S are: Honey-like consistency. Light clear color. Fresh clean smell. And no stabilizer needed. All of which makes Nacconol 60S a big money-value . . . a fine product in which you can build profitable volume for your lines.

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### A HIGHLY PURIFIED PROTEIN—FATTY ACID—CONDENSATE

satisfying the Draize-Woodward eye irritation  
test in all concentrations

ANIONIC • LIME STABLE • HIGHLY SUDSING

#### Specifications

|                           |                        |
|---------------------------|------------------------|
| Form and color .....      | Light tan clear liquid |
| Specific gravity .....    | 1.070 to 1.090         |
| Solids .....              | 35 to 37%              |
| pH .....                  | 6.3 — 7.3              |
| Active Ingredients .....  | (approx.) 33 to 35%    |
| Solubility in water ..... | In all proportions     |
| Iron .....                | Less than 20 p.p.m.    |

#### Applications

|                               |
|-------------------------------|
| Shampoos                      |
| Permanent cold wave solutions |
| Liquid bath preparations      |
| Cosmetic creams               |

**MAYWOOD CHEMICAL WORKS**

MAYWOOD, NEW JERSEY

ESTABLISHED 1895

# News

## Babbitt Names Little

Herbert W. Little has been named market research director for B. T. Babbitt, Inc., New York, it



Herbert W. Little

was announced recently. Before joining the Babbitt organization Mr. Little was market research director of Pharma-Craft Corp., New York. Earlier he was associated with S. C. Johnson & Son, Inc., Racine, Wis., and International Cel-lucotton Products Co., Millville, New Jersey.

## Named by Credit Women

Estelle Healy of Shulton, Inc., Clifton, N. J., has been named treasurer of the New York Credit Women's Group, it was announced recently. The organization is thirty years old.

## Carton Sales Tax Liability

A manufacturer and packer of soaps and toilet articles packed in corrugated cartons is required to pay the New York City retail sales tax on the cartons in which he sells and ships his products to retail grocers and druggists in New York City. This is apparent from the New York Court of Appeals' reversal of the decision of the Appellate Division in Colgate-Palmolive Co. v. Joseph. The reversal requires the vendor to pay the sales tax it should

have collected from such customers, who did not purchase the cartons for resale.

## New Glycerine Process

A three-phase program to make synthetic glycerine by a new process without chlorine was announced last month by Shell Chemical Corp., New York. The first step is construction of a new hydrogen peroxide plant at Norco, La., now under way. The second plant, to be built later, will make acrolein. The third plant will produce glycerine, using acrolein and hydrogen peroxide as intermediates. Design capacity of the plant now being built is 30 million pounds of hydrogen peroxide on a 100 per cent basis. Shell is currently making glycerine from petroleum at its Houston, Tex., plant, supplying more than 25 per cent of all glycerine used in the United States.

## Advances Kramer

The advancement of Maurice G. Kramer to director of application research for Wyandotte Chemicals Corp., Wyandotte, Mich., was announced recently. John J. Cramer has been named to succeed Mr. Kramer as supervisor of the laundry and textile research department.

In his new position, Mr. Kramer directs the development of products for metal working, food processing and laundry industries. He is also to be in charge of Wyandotte's program pertaining to the application of radio-active tracer methods in the study of cleaning problems. Mr. Kramer has been with Wyandotte since 1946 and has written many articles on the subject of detergency.

As supervisor of the laundry and textile department, Mr. Cramer is responsible for the development, formulation and testing of new products for use in commercial and institutional laundries. He is a veteran of 13 years with Wyandotte in the department he now heads.

## Colgate Elects MacMillan

Hugh R. MacMillan, Jr., was elected a director of Colgate-Palmolive Co., Jersey City, N. J., to fill



Hugh R. MacMillan, Jr.

an existing vacancy on the board, it was announced recently. All remaining directors were reelected. Mr. MacMillan has been with Colgate since 1941 and has served as vice-president in charge of production since 1946.

## Fortune Article on "Dial"

How Armour & Co., Chicago, turned "Dial" into the fourth largest selling toilet soap in the United States, accounting for eight to ten per cent of the entire market, is told in a feature article by Spencer Klaw, which appeared in the May issue of *Fortune*.

Tonnage wise it ranks fourth behind "Lux" (Lever Brothers Co., New York), and "Ivory" and "Camay" (Procter & Gamble Co., Cincinnati). In dollar sales, which amounted to nearly \$22,000,000 in 1954, "Dial," more expensive than its competitors, was second only to "Ivory." It earned an estimated three million dollars before taxes, almost exactly the amount of Armour's pretax earnings on its entire two billion dollar business.

Part of "Dial's" phenomenal sales are due to the presence of



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# Worth Your Investigation...

## **CYCLAMAL**

An Aldehyde of great stability and of such high degree of purity that it can be used in the finest perfume extracts as well as soaps and cosmetics.

## **RESEDALIA**

An Acetal resembling the aroma of Reseda Mignonette. It is a valuable addition to all floral bouquets, and as a modifier for the purpose of rounding off all types of compositions.

## **VERONOL**

An Aldehyde of great potency; imparts the aldehydic top note to perfumes to which it is added. It is extremely valuable as a modifier. Used from 1/10 to 1/4 of 1%.

## **ROSANOL**

An Acetal, ideal for all rose type compounds, because of its fine character, great lift and extreme stability.

The advantage of these aromatic chemicals is that their great purity permits their use in the most luxurious perfumes . . . and their low cost makes them feasible for even the most inexpensive soap fragrances.

Sole Representative in the United States for J. and E. Sozio, Grasse, France

*Write for our complete catalogue.*

**PRODUCTS BUILD SALES FOR *Your* PRODUCTS**

Aromatics Division

**VERONA CHEMICAL COMPANY**

Plant and Main Office: 26 Verona Avenue, Newark, N. J.  
1210 Rosedale Avenue, Chicago, Ill.

hexachlorophene as deodorant and antiseptic. Armour uses most of the hexachlorophene made by Sindar Corp., New York, holder of the patents covering the compound.

The demand for "Dial" has been constantly stimulated by effective marketing and advertising techniques. Since the product's introduction in 1948 its advertising has been handled by Foote, Cone & Belding. From 1948 through 1954 Armour has spent nearly 15 million dollars promoting "Dial." Details about the campaign and the people who were instrumental in placing "Dial" in its present position are given in the article. The article concludes by asking: What use will Armour make of its large soap selling organization, now that "Dial" sales are really rolling? One of the possibilities considered by the writer is a non-drying synthetic detergent for bath use.

— ★ —

#### **Plastic Pail Liner**

A new polyethylene contour liner integral with five-gallon steel pails was introduced recently by the container division of Jones & Laughlin Corp., New York. Suggested for use with germicides, acids, alkalis, glycols, and other hard to pack liquids, the "JaLiner" is a closed top, electronically sealed liner of heaviest gauge polyethylene. It is installed during manufacture of the container and attached to the container opening. Either a plastic or tin plate pouring spout can be supplied. A folder giving further information on the product is available from the manufacturer at 405 Lexington Avenue, New York 17.

— ★ —

#### **Alkanolamides Bulletin**

Emulsol Chemical Corp., Chicago, last month published a 14-page mimeographed bulletin entitled "The Fatty Alkanolamides — Emcol 5000 Series." The properties of these compounds are described and uses in detergents, polishes and numerous other chemical specialties are listed. Suggested specimen formulations incorporating fatty alkanolamides are supplied. The bulletin is

## **Strike Cuts Colgate's First Quarter Net**

**C**OLGATE-Palmolive Co., Jersey City, N. J., reported a net income for the first quarter of 1955 of \$1,098,000 or 40 cents per share of common stock, compared with \$3,455,000 or \$1.38 in the first quarter of 1954. A strike at the company's three largest plants located at Jersey City, Jeffersonville, Ind., and Kansas City, Kans., which lasted from March 9 to March 28 is reported to have reduced domestic sales for the quarter to \$62,484,000, as against \$67,652,000 in the same period of 1954. Orders received in the first quarter of 1955 were six percent higher than in the preceding year. April shipments, says the report, have been unusually heavy and sales for the first four months will be about six percent more than for the first four months of last year.

Sales of foreign subsidiaries

which are not consolidated amounted to \$43,041,000 in the current quarter, an increase of \$2,844,000 over the preceding year. World-wide sales for the quarter totaled \$105,525,000 in 1955 and \$107,849,000 in 1954.

Net income for the first quarter includes dividend income from foreign subsidiaries of \$843,000 as compared with \$910,000 in 1954. Actual earnings of foreign subsidiaries for the period amounted to \$1,634,000 in 1955 and \$2,464,000 in the preceding year. Colgate's equity in the undistributed portion of foreign earnings was equivalent to an additional 32 cents per share for the first quarter of 1955 and 59 cents per share in the corresponding quarter of 1954.

Procter & Gamble Co., Cincinnati, reported a consolidated net profit of \$45,174,287 for the nine months ending March 31, 1955. This equals \$4.66 per share of common stock. For the comparable period of 1954 net profit was \$40,352,086 or \$4.18 per common share. Provision for United States and foreign income taxes in the 1955 quarter was \$51,801,000.

Bon Ami Co., New York, reported for the quarter ending March 31, 1955 net income of \$38,502 and 43 cents class A share earnings compared with \$63,839 and 71 cents in the first quarter of 1954.

Sun Chemical Corp., Long Island City, N. Y., reported for the first quarter of 1955 an increase in sales to \$9,764,916 from \$9,537,276 in 1954. Net profit in the first three months of 1955 was \$251,164, an increase of 30 percent over the comparable period in 1954, when the net profit was \$192,845. Earnings in the first three months of 1955 were 19 cents per share on the common stock, as compared with 14 cents in 1954. Profit before taxes in the 1955 quarter also increased, totaling \$596,633; in 1954 it was \$502,370.

Procter & Gamble Co., Cincinnati, whose fiscal year ends June 30, has declared a fiscal year end dividend of 50 cents and the regular quarterly dividend of 75 cents a share on common stock. Both payments will be made May 14 to holders of record April 22.

Unilever, Ltd., declared a final dividend of nine and three quarter percent on the ordinary stock, payable June 9 to stock of record May 14. Unilever, N.V., declared a final dividend of eight and three quarter percent on the ordinary stock.

Stockholders of Clorox Chemical Co., Oakland, Calif., approved a 10 percent stock dividend payable May 5 to stock of record April 20. A regular quarterly dividend of 75 cents will be payable June 10 to stock of record May 25.

Diversey Corp., Chicago, reported for the first quarter of 1955 a net income of \$61,110 and earnings of 24 cents per share, compared with \$44,460 and 17 cents in the comparable quarter of 1954.

R. M. Hollingshead Corp., Camden, N. J., reported net sales of (Turn to Page 251)

# CHEELOX B-14

*The Balanced  
Organic  
Sequestering  
Agent*

Specifically designed to inactivate CALCIUM and MAGNESIUM PLUS all traces of IRON. In alkaline processing liquors, calcium and iron sequestering is accomplished SIMULTANEOUSLY.

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## Felton Sales Meeting

Felton Chemical Co., Brooklyn, N. Y., held a three-day sales meeting last month at the Hotel Lexington, New York. Representatives attended from Felton's plants in Brooklyn, Los Angeles, Montreal, and Versailles, France, and from sales branches in Atlanta, Boston, Chicago, Cleveland, Philadelphia, St. Louis, Toronto, Winnipeg, and Vancouver as well as from the export division.

The meeting, under the chairmanship of Frank Brumburgh, sales manager, followed a schedule drawn up by Robert E. Felton, director of research and development. Topics discussed included "New Outlets for Felton Products;" "The Development of Products to Fill the Requirements of New Goods Better;" "The World - Wide Competitive Situation;" "The Study and Discussion of New Sales Techniques;" and "Ways of Effecting Better Customer Service."

Joseph Felton, president, and Sophie Felton, secretary and treasurer, gave welcoming addresses. In the keynote address Louis Gampert,

executive vice-president, outlined what Felton is doing to improve its competitive position. Among outstanding recent developments Mr. Gampert mentioned Felton's complete aerosol laboratory with facilities for a complete sample service for customers.

## Syndet Congress in 1957

The second World Congress on Surface Activity has been tentatively scheduled to be held in London, England, in September, 1957. Official languages will be English and French. Dr. L. H. Lampitt has been named acting chairman of the organizing committee and Sir Eric Rideal has been invited to act as honorary president.

Copies of the proceedings of the first congress, held in Paris in 1954, can now be ordered from the secretariat at 70 Champs Elysees, Paris (8), France. Price for the full report, if order is received before May 31, is 6,000 francs, with a 25 per cent discount for registered members of the congress. Reports of sectional meetings can be ordered separately.

Employees of Felton Chemical Co., Brooklyn, at recent sales meeting were: front row, l. to r.: Robert E. Felton, Leo Howard, Jack L. Weisman, Louis Gampert, Sophie Felton, Dr. Joseph Felton, Frank Brumburgh and Joseph Colten. Second row, l. to r.: George Liebel, Michael Zulauf, Alec Lewis, D. W. Zuckerman, Ira Kapp, Ruth Standen, Robert I. Burke, Dr.

Henry Field, Jerome Kaufman, Sam Eskenazy, Leo C. Weinrobe, Adolph Dingfelder, Harris Shore, Hans F. Dresel. Rear row, l. to r.: Michael Siegel, Edwin Barbeau, Arthur Kirsten, Edward Petersen, Herbert Berger, Walter Stone, Jean-Paul Baude, Philip Weinrobe, Leonard Allen, Alexander Dubenchiek and David Marso.



## To Acquire Blockson

Olin Mathieson Chemical Corp., will acquire Blockson Chemical Co., Joliet, Ill., under an agreement calling for an exchange of three quarters of a share of Olin Mathieson stock for one share of Blockson, it was announced last month. At the same time, Olin Mathieson's sales in the first quarter of 1955 were reported about ten percent above the comparable 1954 quarter. It was estimated that first quarter earnings would exceed the 69 cents a share paid in 1954.

## Armour Reassigns Rooney

J. E. Rooney, Jr., assistant sales manager of the industrial soap department of Armour and Co., Chicago, has been transferred to the firm's North Bergen, N. J., soap plant and placed in charge of eastern industrial soap sales operations. Mr. Rooney joined Armour in 1937 in the mail department. He was advanced to representative in the industrial soap department and later to sales manager in the glycerine department before attaining his present position.



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Pure Anhydrous Sodium Metasilicate

You, too, will choose Metso Anhydrous for these important qualities —

**high purity** • Here is the "anhydrous" with a true metasilicate ratio. The percentage of soluble silica ( $\text{SiO}_2$ ) is in correct ratio to alkali ( $\text{Na}_2\text{O}$ ). Metso Anhydrous has *higher*  $\text{SiO}_2$ —low  $\text{CO}_2$  content.

**quality appearance** • White, free-flowing granules are attractive. They blend readily with synthetic detergents, caustic soda, phosphates, carbonates and soap. Metso Anhydrous is carefully sized to minimize dusting.

**reliable performance** • Metso Anhydrous dissolves rapidly, important in many types of compounds. Because of a special manufacturing process\* Metso Anhydrous' unique physical structure increases resistance to caking from atmospheric moisture. This improves product stability.

**adaptability** • Used successfully in compounds for laundries, metal finishing (electro-plating, soaker tank, spray washing), steam gun cleaning, ore dressing, machine dishwashing, dairies, packing houses, textiles, paper deinking, soap builders.

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### Hirsch Succeeds Stults

Louis S. Hirsch has been chosen eighth president of Welch, Holme & Clark Co., New York, it



Louis S. Hirsch

was announced last month. With the firm for the past seventeen years, Mr. Hirsch has been vice-president in charge of sales since 1940. Prior to joining WH&C he was associated with E. I. du Pont de Nemours & Co., Wilmington, Del., from 1919 to 1921 and with B. P. Ducas Co., New York, from 1921 to 1937. Mr. Hirsch succeeds Elias D. Stults, president of the firm since 1929, who died Dec. 10, 1954.

At the same time, Walter Dugan, with Welch, Holme & Clark for the past 21 years, was appointed vice-president. In his new position he will assume some sales responsibilities in addition to his duties as superintendent of the Newark, N. J., plant.

William G. Niblette, who becomes treasurer and secretary, has been with the company for sixteen years. His most recent position was that of office manager. John A. Kaiser, former salesman, has been named assistant secretary. He joined the company three years ago.

The firm known today as Welch, Holme & Clark Co. was founded in 1838 by Oliver Loveland as O. Loveland Son & Co. and supplied cement and other materials to the building trade. In 1858 it began to sell lime to the soap industry for the causticizing of soda ash. In that year P. A. Welch joined the firm

and conceived the idea of supplying other raw materials to the soap makers. Henry Holme, son of a retired soapmaker, became a partner and shortly afterwards Holme's father joined the firm. In 1870, the firm was renamed Welch, Holme & Clark.

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### TGA Golf Tournament

The annual golf tournament of the toilet goods industry, held in connection with annual meeting of the Toilet Goods Association, was to take place Monday, May 9, at Winged Foot Golf Club, Mamaroneck, N. Y., it was announced recently. Chairman of the golf tournament committee is Paul E. Forsman of C. H. Forsman Co., New York. Other members of the committee include: Sydney A. Finer, Pond's Extract Co., John E. Gabrielson, Avon Products, Inc., Philip J. Heinle, Richford Corp., and James H. R. Stephenson, Verley Chemical Co.

— ★ —

### Columbia Advances Ebert

Quentin F. Ebert has been appointed director of purchases by Columbia-Southern Chemical Corp., Pittsburgh, it was announced last month by E. T. Asplundh, president. Mr. Ebert joined the firm as a development and production engineer in 1942.

In his new position he coordinates and formulates purchasing policies, trade relations, and related administrative operations. He will also continue as special assistant to the general superintendent to which position he was appointed in 1951.

— ★ —

### Eco Names Canadian Rep.

Eco Engineering Co., Newark, N. J., recently announced the appointment of John H. Pettit, Montreal, Canada, as exclusive representative in Quebec, Ontario, and the Maritime Provinces for the Eco line of small displacement and centrifugal pumps for the process industries. A trained chemical engineer, Mr. Pettit is advising customers on corrosive pumping problems.

### In New MM&R Post

Robert Burke Magnus, Jr., has been elected assistant treasurer of Magnus, Mabee & Reynard, Inc.,



Robert B. Magnus, Jr.

New York, it was announced recently. His father, Robert B. Magnus, is vice-president of MM&R.

After being graduated from Nichols Junior College, Dudley, Mass., the new assistant treasurer of MM&R attended Johns Hopkins University, Baltimore, where he studied industrial management and business administration. He joined MM&R in 1950, and has worked in a number of departments of the company.

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### New Oakite Cleaner

A new chlorinated detergent for the food and dairy industries was introduced recently by Oakite Products, Inc., New York, under the trade name "Chlor-tergent." Said to clean, deodorize, and sanitize in one operation, the new product also brightens stainless steel.

"Chlor-tergent" is said to provide 140 parts per million of available chlorine at a concentration of one half ounce to one gallon of water, with chlorine content remaining stable at high temperatures. The product is readily soluble in cold or warm water without sudsing. The absence of foam makes the detergent useful for in-place cleaning, because it causes no air pockets in pipelines during circulation. It is claimed to be safe on the human skin and harmless to metal, rubber and plastic surfaces.

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### New Ungerer Executives

Two new vice-presidents were appointed last month by Ungerer & Co., New York. Darrell Althausen, previously technical director at the Totowa, N. J., plant, becomes vice-president and technical director of the company. George V. Branigan was also named a vice-president. He has been with Ungerer since 1922, most recently as chief chemist.

Dr. Althausen came to Ungerer in 1951 from Fritzsche Brothers Co., New York, where he had served as manager of the Clifton, N. J., plant. He had joined Fritzsche in 1945 and was co-author with Dr. Ernest Guenther, vice-

president in charge of research for Fritzsche, of volume II of "The Essential Oils" published in 1949. During World War II Dr. Althausen served with the Chemical Warfare Service in Washington from 1942 to 1945.

At the same time Hazel Fraser Leiste, executive secretary to Kenneth G. Voorhees, president, was appointed assistant secretary to the company. Mrs. Leiste, who has been with Ungerer for 26 years will retain her former responsibilities in addition to her new duties.

Ungerer also announced the appointment of three salesmen: J. L. Slais becomes Chicago district sales manager, after having represented

Ungerer in various territories over a period of 15 years. Before coming to Chicago he served the St. Louis, Mo., area. In his new position Mr. Slais assumes responsibility for the company's sales activities in the entire mid-western area.

Norman E. Gallagher, with the company for more than 20 years, has been appointed sales representative for the state of Connecticut, in addition to his duties as representative in the metropolitan New York area.

William A. Kissel has joined Ungerer as sales representative in New York state exclusive of New York City. He was previously associated with Dodge & Olcott Inc.

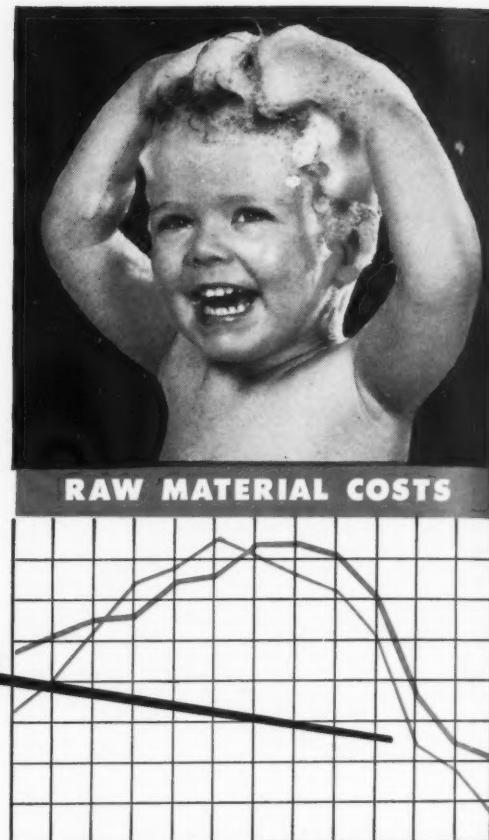
Dr. George P. Larrick, Commissioner of Food and Drugs, Washington, D. C. addresses Cosmetic Career Women luncheon-meeting, April 6, 1955 at Waldorf-Astoria Hotel, New York City. Seated on dais left to right: Annabelle Farrell of Emery Industries; Amy Blaisdell of Helena Rubinstein;

Peg Burrow of Oxzyn; Kay Fitzpatrick of T.G.A.; Dr. Sophie Plechner of Carter Products; Kay Colton of Morningstar-Nicol; Fannie Goldstein of van Ameringen-Haebler; Anna Figee of Avon Products; Clarice Mills of Colgate-Palmolive. 250 members and guests attended.



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Have you met the ULTRAWETS, the alkyl aryl sulfonates that have saving ways with good shampoos?

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ULTRAWETS in your shampoo formulation may help you to improve your present product. On top of that, these superior alkyl aryl sulfonates are far less costly than many other types of detergents and will lower your costs.

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Dept. E-5, Chemical Products Sales  
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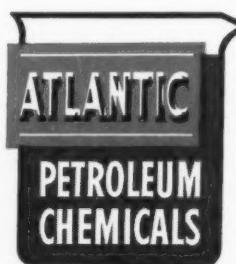
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In the West: L. H. Butcher Co.

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Dominion Rubber Company, Ltd.

In Europe: Atlantic Chemicals SAB, Antwerp, Belgium

### **Armour Advances Augst**

Armour and Co., Chicago, has appointed Balfour J. Augst as manager of the newly created laun-



Balfour J. Augst

dry sales and engineering section of the industrial soap department, it was announced recently by L. V. Merrill, industrial soap sales manager.

Prior to his new appointment Mr. Augst had been assistant to the sales manager in charge of sales training and laundry field problems. He joined Armour in 1948 as a technical field representative for the soap division and was later appointed to the research division, where among other projects he worked on the development of "Velva-Soft," a fabric softener made by Armour. In his new post Mr. Augst is in charge of all sales and engineering service to the laundry, and the rug and dry cleaning industries.

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### **Monsanto Names Lightfoot**

Monsanto Chemical Co., St. Louis, Mo., has advanced Charles L. Lightfoot, Jr., to assistant development manager in the development department of the research and engineering division, it was announced recently. Prior to his new appointment, Mr. Lightfoot was a member of the sales department of the organic chemicals division. His new duties include contact work with government research laboratories and liaison with Monsanto manufacturing divisions. Mr. Lightfoot was chief engineer for Syntex,

S.A., of Mexico, before he joined Monsanto.

### **New Synthetic Musk**

A new synthetic musk body, said to be suitable for use in all soaps, was introduced recently by Givaudan-Delawanna, Inc., New York. Trade named "Versalide," the product is stable to light, air, heat, and alkali and does not cause discoloration, according to R. E. Horsey, vice-president in charge of sales for Givaudan. Toxicity tests are said to show "Versalide" to be safe for use in all types of cosmetics. It is a colorless crystalline material of ready solubility. Samples and additional information are available from Givaudan at 330 West 42nd St., New York 36.

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### **Michigan Assn. Elects**

The election of the following officers and executive committee of the Chemical and Allied Industries Association of Michigan for 1955 was announced recently: president, Robert F. Watt, Western Solvents & Chemicals Co.; vice-president, M. Lorne Morrison, R. P. Scherer Corp.; treasurer, William F. Harlton, Jr., Detroit Veterinary Supply Co., and secretary, J. Glenn Hicks, Monsanto Chemical Co. The executive committee is composed of Clair J. Brissette, Parke, Davis & Co.; Hugh D. Kitchen, Park Chemical Co., and M. R. Polley, Mallard, Inc.

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### **New Mennen Shampoo**

A new non-alkaline, detergent shampoo for men was introduced by Mennen Co., Morristown, N. J., early this month in a combination offer with "Mennen Skin Bracer." The new product contains hexachlorophene. A million bottles will be distributed free with the 59 cent after shave lotion.

Mennen's new shampoo comes in a green non-slip plastic container and will retail at \$1. Designed especially for use by men, the product is claimed to build up antibacterial resistance on the scalp and to offer other advantages owing to the absence of soap and to its non-alkalinity.

### **Shore Heads Felton Dep't**

Harris Shore has been appointed manager of the newly created true fruit department of Felton



Harris Shore

Chemical Co., Brooklyn, N. Y., it was announced last month. A graduate of the University of London, Mr. Shore's previous associations in the United States include Mabrand Products, Inc., a division of R. H. Macy & Co., New York; Polak & Schwarz, Inc., New York; and Seeley & Co., Nyack, N. Y., where he was vice-president and chief chemist.

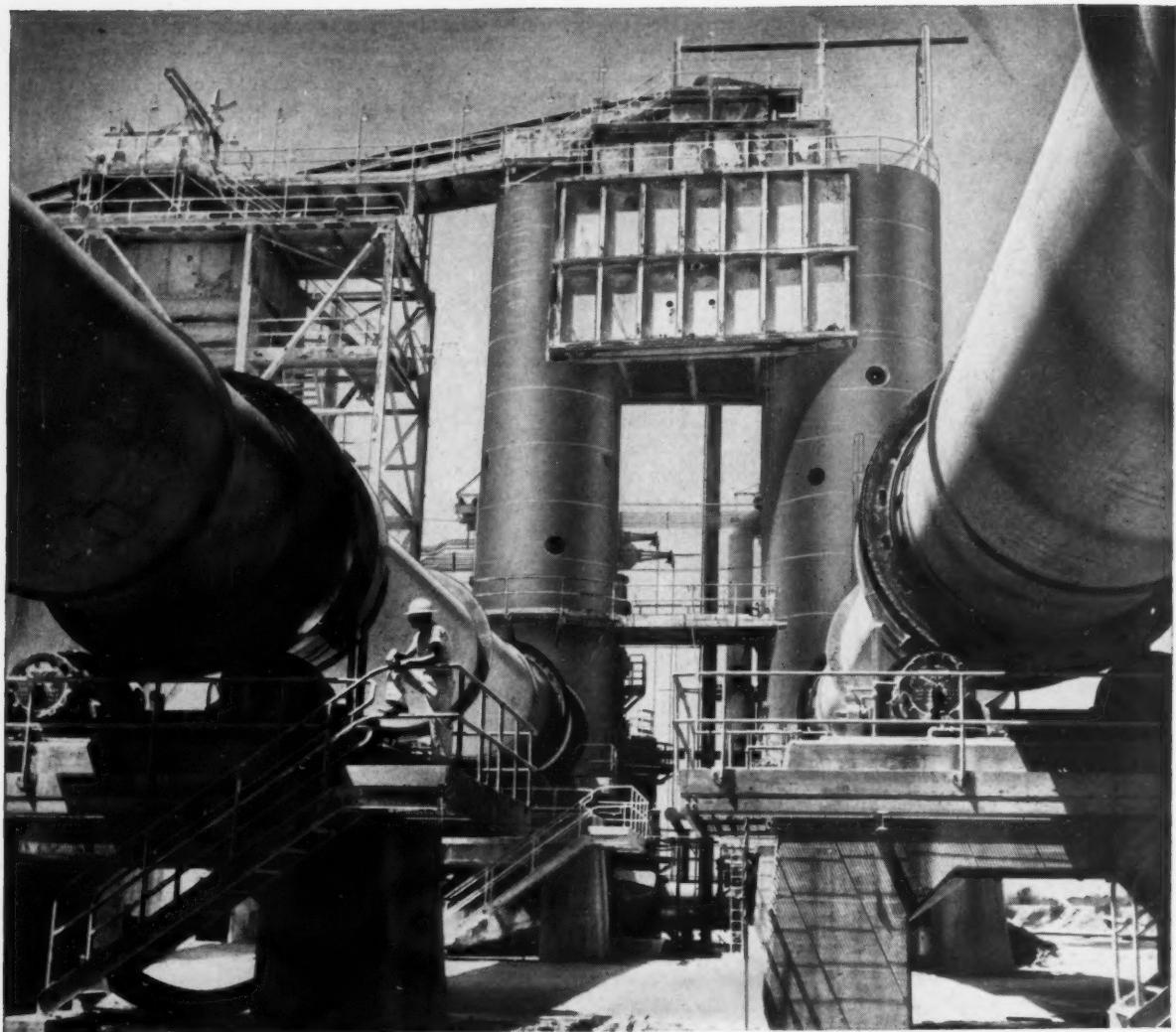
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### **Alcolac Reassigns Two**

T. H. Elder, Jr., and Morris J. Warren, former members of the sales department of American Alcolac Corp., Baltimore, have been transferred to the development division, it was announced May 3 by John E. Andre, executive vice-president. Mr. Elder will remain in Baltimore; Mr. Warren will relocate at the firm's New York offices where he will assist Carl Pacifico, director of development. Both men will be engaged in the development of new markets in all fields for Alcolac's synthetic detergents.

Mr. Elder's previous associations in the industry include Wyeth Laboratories, Inc., Philadelphia, and Davison Chemical Co., Baltimore.

Prior to joining Alcolac, Mr. Warren was with the U. S. Department of Agriculture and the U. S. Army Chemical Corps.



## Mathieson Soda Ash: *there's always an 'r' in purity*

Purity knows no season in the production of Mathieson soda ash; *oyster shells* are available every month of the year. Here at Lake Charles, La., shells are the starting point of the ammonia-soda process. Taken from the Gulf by the thousands of tons, they are washed and placed in huge storage piles, then transferred as needed to the towering silos shown above. From the silos they are fed into large rotary kilns where carbon dioxide and lime of extremely high purity are obtained.

At all Mathieson plants, attention to raw materials helps assure the quality of products. In addition, buyers have the

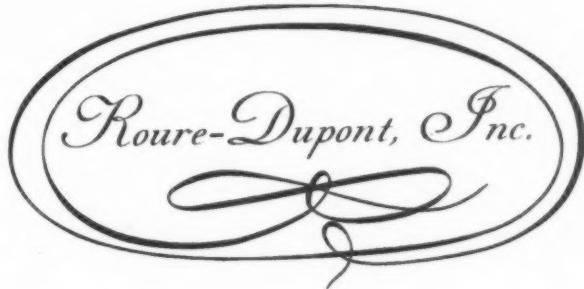
protection of multi-plant production facilities . . . 2 soda ash plants, 6 caustic soda plants, 5 chlorine plants, 7 sulphuric acid plants, 3 ammonia plants . . . plus practical technical assistance with materials handling and application problems. When planning current or future chemical requirements, be sure to call on Olin Mathieson. Perhaps you can buy to better advantage from one of America's largest, most diversified producers of basic industrial chemicals.

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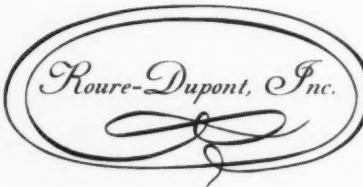
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## New Phosphates Facilities

A four step, five million dollar expansion program scheduled for completion in 1956 will place



Vincent H. Shea

Shea Chemical Corp., Baltimore, among the largest producers of elemental phosphorus and phosphorus products, it was announced last month by Vincent H. Shea, president. The four step program calls for constructing an additional 20,000 ton phosphorus furnace in Columbia, Tenn.; a new phosphate rock washing and preparation plant in the same area; a new sodium phosphate plant in Dallas, Tex.; and enlarging an existing plant in Adams, Mass.

The second furnace and the phosphate washing plant at Columbia are the key to the whole program, because they ensure flexible and continuous use of the firm's own phosphate rock deposits. The phosphorus processed in this location will be shipped by tankcar to the new sodium phosphate plant to be constructed in Dallas, similar to the plant Shea constructed in Jeffersonville last year at a cost of about \$1,250,000. Much of the phosphoric acid will be put to captive use for the making of sodium phosphate, some will be sold to local industrial users. Part of the capacity of the Dallas plant has been placed under long-term contract to supply requirements of local detergent producers, as has been done at Jeffersonville. Sodium phosphates in both plants are made by the spray dry-

ing method which Shea claims to have introduced in this particular industry.

Additions to the Adams, Mass., facilities, currently making phosphoric acid and dicalcium phosphate, will permit production of organic chemicals based on phosphorus and other specialties. Pilot plant operations in this field have been in progress at that plant for the past two years, and related research will also be carried on here.

Shea was organized in 1951 and entered the sodium phosphates field in 1954.

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## French, Inc. Discontinues

Benjamin French, Inc., New York representative of Descollonges Freres, Lyons, France, transferred the working assets of its business to Jean Descollonges, effective April 18. Mr. Descollonges will continue to operate the business at its former address under the name of Descollonges, Inc.

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## Pacific Borax Changes

The appointment of W. J. Dibble as general sales manager, western division, bulk department of Pacific Coast Borax Co., Division of Borax Consolidated, Ltd., New York, was announced recently. Mr. Dibble, who was formerly with Oronite Chemical Co., San Francisco, supervises the operation of the agricultural sales division and is responsible for industrial sales in the Western states.

The opening of a new district sales office in Kansas City, Mo., was also announced recently by Pacific Coast Borax. The office, which is located at 4010 Washington St., serves as district headquarters for three divisions of the company: package, agricultural sales and industrial sales. Howard B. Cain is package department sales manager for the Kansas City District, and F. M. Dosch, assisted by J. G. Neckerman, is in charge of the agricultural sales division. Jack Loesel is in charge of industrial sales in the area.

## Sloan to Cowles Board

The election of Edward W. Sloan, Jr., Cleveland industrial and civic leader, to the board of direc-



Edward W. Sloan, Jr.

tors of Cowles Chemical Co., Cleveland, was announced recently following the company's annual share holders' meeting, Apr. 12. Mr. Sloan's election increases membership of the board from five to six, according to R. F. Huntley, Cowles president. Other directors elected at the meeting, in addition to Mr. Huntley, were C. C. Bassett, W. M. Clossey, C. B. Lansing and D. A. Gaskill.

Plans for further expansion and diversification were outlined by Mr. Huntley, who revealed that Cowles' first quarter sales in 1955 were 5.5 percent ahead of those of a year ago.

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## Five SAACI Golf Dates

The Salesmen's Association of the American Chemical Industry will hold five golf outings in 1955 instead of the usual four. Dates and places include Garden City Country Club, Garden City, L. I., May 17; Bonnie Briar Country Club, Larchmont, N. Y., June 21; Ridgewood Country Club, Ridgewood, N. J., July 15; Tamarack Country Club, Greenwich, Conn., Aug. 4; and Hackensack Country Club, Oradell, N. J., Sept. 1. The Aug. 4th outing will feature a clam bake and the final affair of the season Sept. 1 will be highlighted by a floor show.

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Compounding  
Problem?

### LOWER COST?

DRYMET—anhydrous sodium metasilicate—provides more detergent power per pound and more real power per dollar.

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DRYMET puts more genuine colloidal punch into your cleaning compounds. More soil-loosening. More soil-dispersing action.

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- Individual suggestions for improving your products

### pH CONTROL?

DRYMET buffers alkali hydroxides, carbonates, phosphates, soaps, synthetics. Pegs the pH where you want it.

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## **Plax Moves N. Y. Office**

The New York district office of Plax Corp., Hartford, Conn., has been moved effective May 2. The new address is: Room 308, 500 Fifth Avenue, New York 36, telephone number Pennsylvania 6-9354.

## **New Low-Suds Detergent**

A new low sudsing non-ionic detergent in spray dried form, designed for use in automatic laundry machines, was introduced last month by Ultra Chemical Works, Inc., Paterson, N. J. Especially formulated to wash cotton clothes, "Neopone LO" is said to be effective also on rayon, nylon, and blended synthetic fibers. The product comes in white spray dried bead form and is said to be free flowing and of pleasant odor.

## **Solvay Names Two Execs.**

Formation of a new department and two executive appointments were announced last month by Solvay Process Division, Allied Chemical & Dye Corp., New York. John H. Elleman becomes director of the newly established coordination department, and Arthur Phillips, Jr., succeeds Mr. Elleman as director of sales.

Under the new set up, Solvay's technical service department reports to Mr. Elleman who makes his headquarters in Syracuse, N. Y. In addition, he will supervise the firm's sales training program and maintain liaison between sales, operating and development departments.

John H. Elleman



It is packed in 50 pound bags and 130 pound drums. Samples and data sheets are available from Ultra at 2 Wood Street, Paterson.

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## **Lever Leases Space**

Lever Brothers Co., New York, has leased a floor in 533 West 57th Street. The space will be used to store records formerly kept at Lever House, headquarters of the company at 390 Park Ave., New York.

— ★ —

## **Arthur C. Drury Dies**

Arthur C. Drury, founder and head of A. C. Drury & Co., Chicago, dealers in chemicals and aromatics, died in St. Petersburg, Fla., April 11. He was a member of the Chicago Drug and Chemical Association.

A graduate of Purdue University, Mr. Elleman joined Solvay in 1935 as an engineer in the technical service section. In 1954 he became director of sales. During World War II he served with the Corps of Engineers.

Mr. Phillips, as director of sales, will continue to be located at the executive offices in New York. He supervises all of the firm's sales activities. A graduate of Lafayette College, he joined Solvay as a salesman in 1929 and was assigned to the Detroit area. He became assistant to the director of sales in 1951 and assistant director of sales in 1954. During World War II he served with the Navy in the Pacific.

Arthur Phillips, Jr.



## **New "Armacs" Brochure**

A new brochure describing characteristics and applications of "Armacs" acetic acid salts of fatty amines was published recently by Armour and Co., Chicago. These cationic materials can be adsorbed onto metallic and non-metallic surfaces from liquid systems. Pipeline corrosion, emulsions, and waterproofing are among the fields of application. A copy of the booklet may be obtained by communicating with Armour & Co., Derivatives Department, Chemical Division, 1355 West 31st Street, Chicago.

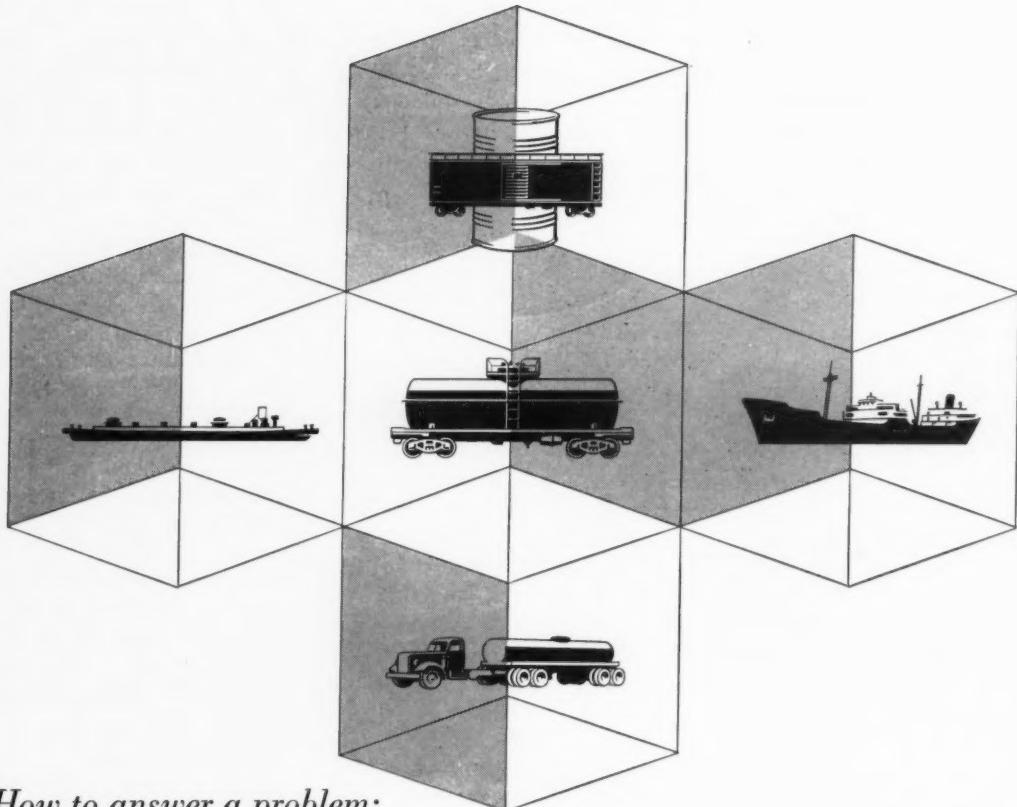
## **Nonionic Detergents**

(From Page 49)

of *Soap and Sanitary Chemicals* that a method of testing was developed which eliminated many of the common variables normally encountered. Results obtained using this method of testing on metal and glass indicated that although the anionic surfactants generally cleaned glass well, they were ineffective—and in some cases caused soil redeposition—on metals. Similarly, the cationics promoted soil redeposition on glass. The nonionics, however, are effective in cleaning both kinds of substrate. Furthermore, the nonionics were especially good soil suspending agents, while the ionic materials were quite poor in this regard.

One theory of detergency indicates that preferential wetting of the material to be cleaned by the detergent is required before cleaning occurs. This theory was confirmed by actual performance as well as by measuring contact angles of detergent solutions under oil on glass and metal. The results obtained in such measurements completely confirmed the test results referred to above.

In conclusion, we feel that nonionics are truly versatile compounds with a large growth potential beyond their current widespread applications, and that this versatility is due to their great adaptability, their high compatibility, and to their efficiency as surface active agents.



*How to answer a problem:*

## there's *no illusion* to what you get when your CAUSTIC comes from DOW

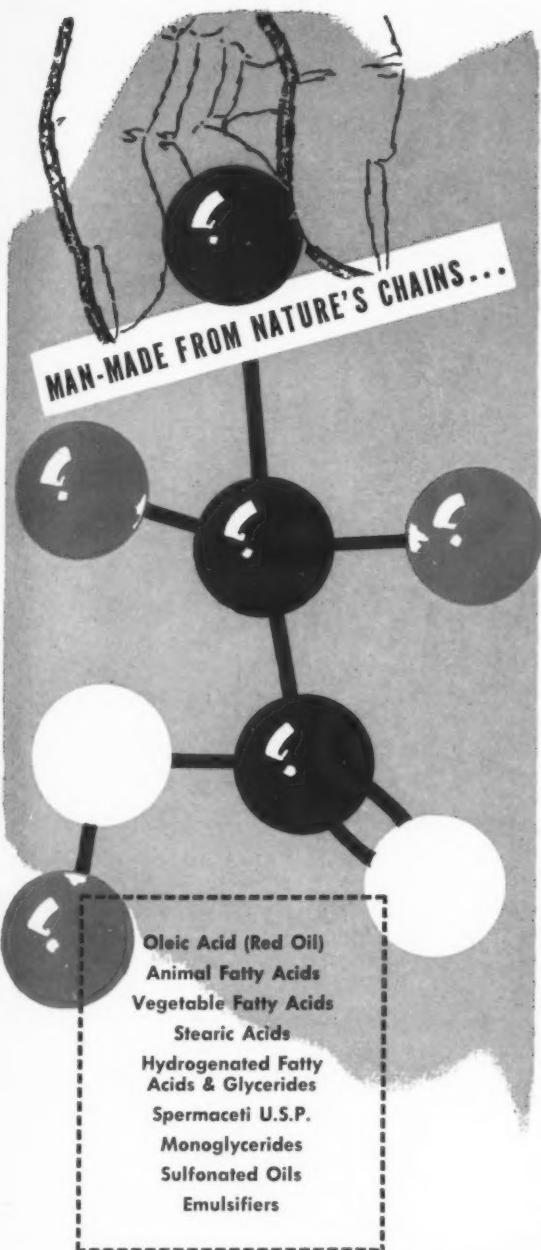
DISTRIBUTION FACILITIES  
AND SERVICES "PACKAGED"  
FOR YOUR OPERATIONS

There's one simple, across-the-board answer to any caustic soda problem you might have: *Get it from Dow!* Dow has the form you need: ground flake, flake, solid, 50% or 73% solution. Dow makes delivery by the most economical "package": tank car, tank truck, barge or ocean tanker.

Dow's Alkali Sales Department will gladly look into the economics of *your caustic use*... and may well be able to point out surprising savings. So many services are yours—dependably yours—when you deal with Dow. THE DOW CHEMICAL COMPANY, Dept. AL 360G, Midland, Michigan.

*you can depend on DOW CHEMICALS*





# SWIFT'S STEARIC ACIDS



... TO MEET RIGID COLOR, ODOR  
AND HEAT STABILITY REQUIREMENTS

Increasing pressure for improved product and quality control is creating fresh demands for greater stability and adherence to specifications in basic products such as stearic and fatty acids.

To help meet the demands of your most exacting customers and prospects, Swift & Company now offers a new line of highly stable yet extremely versatile stearic acids . . . products that do nature *one* better in being literally man-made from nature's chains.

Through a unique low temperature solvent process Swift & Company is able to selectively extract the products with which we work. In this manner free fatty acids, color bodies and other factors, are controlled to a degree heretofore impractical. The result is a combination of a wide variety of highly stable stearic acids that can be relied upon in use . . . dependably specified for your most *exacting* production requirements.

Swift's single, double and triple pressed stearic acids are readily available from stock. Write today for further information on a sample order on any of the many specialized Swift's products listed at left and remember . . .

ONE TRIAL IS BETTER THAN A THOUSAND CLAIMS

#### USE THIS COUPON FOR FURTHER INFORMATION

Swift & Company, Industrial Oil Dept.  
1834 165th Street  
Hammond, Indiana

O-12-S rev.

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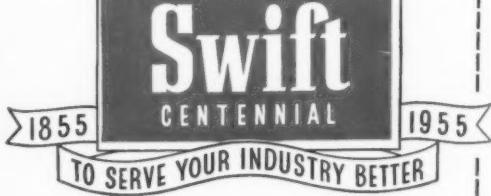
Send 8-page Industrial Oil Bulletin.

Name \_\_\_\_\_ Title \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

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# WHY PAY HIGH PRICES FOR NATURAL ESSENTIAL OILS?

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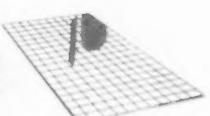
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Whether your cleaning problem  
is windows    walls    floors



dishes    laundry



automobiles    or almost anything else,



you'll get  better results with

# SULFRAMIN<sup>\*</sup> HD BEADS

## ULTRA'S ALL PURPOSE DETERGENT

Sulframin HD Beads handle all sorts of cleaning jobs . . . and handle them more efficiently and more economically than any other detergent on the market. In an institution, for instance, Sulframin HD Beads can be used for cleaning floors, walls, and windows, as well as for laundry and dishwashing. And, of course, that's just as true for restaurants, hotels and recreation centers.

The reason for the superiority of HD Beads is simple. HD Beads are an alkyl aryl sulfonate in spray-dried form, blended with complex phosphates to assure maximum wetting and detergency even in hard water. HD Beads give mountains of soap-like suds, provide free rinsing and instant solubility.



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Because HD Beads do so many cleaning jobs so well there are more sales opportunities for you . . . more chance for you to make a solid profit.

HD Beads are available in 50 pound bags, and 50, 90 and 130 pound drums. For full details, mail coupon below today.

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Please send me technical data sheet,  
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it  
the  
cheapest,  
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### EMPICOL LZV NEEDLES

Users throughout the World are finding that odourless, non-dusty Empicol LZV Needles are the best possible form of Sodium Lauryl Sulphate. Cheaper to use, cleaner and easier to handle and store, they are ideal for the manufacture of shampoo creams, toothpastes and cosmetics.

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Manufacturers of:

**ORGANIC DIVISION:** fatty alcohol sulphates (**EMPICOLS**), emulsifiers (**EMPILANS**), self-emulsifying waxes (**EMPIWAXES**), alkyl aryl sulphonates (**NANSAS**) and other detergent bases, additives and emulsifiers in powder, paste and liquid forms.

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# HILTAMINE arctic white

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an optical brightener  
extremely subsensitive  
to wool, nylon, orlon,  
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**HILTAMINE**  
**arctic white BPS**

Samples  
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**THE HILTON-DAVIS CHEMICAL CO. DIV.**

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CHLOROTHENE**

(1,1,1-trichloroethane, inhibited)

- \***No fire hazard**
- \***Extremely low toxicity**
- \***Extra-high solvency**
- \***Rapid Dry Time**



Chlorothene is the answer to the search for a cold cleaning solvent that eliminates fire hazard — that equals carbon "tet" in cleaning power and yet is only 1/20 as toxic.\* Chlorothene has no flash point—no fire point. Chlorothene permits cleaning of common metals, including aluminum with relative safety from corrosion.

\*M.A.C. 500 p.p.m.

In addition to Chlorothene, your nearby Solvents and Chemicals Group Member carries a complete stock of cold cleaning and vapor degreasing solvents. Order by drum, tank wagon, transport or tank car. You're sure of speedy service . . . of products from nationally-known suppliers when you call on the Solvents and Chemicals Group.

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**Wolverine Solvents & Chemicals Co.**  
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Grand Rapids, Michigan

# Bids and AWARDS

## FSS Soap Awards

The Federal Supply Service, Dallas, Texas, announced the following awards on soap in a recent opening for miscellaneous supplies: Turco Products Co., Houston, item 1, 1,800 pounds, 9.65 cents; Unity Sanitary Supply Co., New York, item 3, 12,000 cans, 9 cents; Worth Chemical Products Corp., Fort Worth, item 9, 2,500 pounds, 13 cents; Murro Chemical Co., Portsmouth, Va., item 4, 5,625 pounds, 14 cents; Utility Co., New York, item 2, 360 cans, 12.5 cents; no award for item 5; items 6, 7 and 8 to be readvertised. March 1 inv. 40929.

## Low Soap Bids

Soap was included in a recent opening for miscellaneous supplies by the Federal Supply Service, New York. Low bids of 12.5 cents were submitted by John T. Stanley Co., New York, and National Milling & Chemical Co., Philadelphia. March 18, inv. 61253.

## Awards To Swift, Gillam

In a recent opening for miscellaneous supplies by the Federal Supply Service, Denver, awards on soap went to Gillam Soap Works, Fort Worth, Texas, and Swift & Co., Denver. Gillam bid 8.1 cents on item 2a and Swift 15.9 cents on item 1. March 10, inv. 9118.

## Navy Soap Powder Bid

Pacific Coast Borax Co., New York, submitted the low bids on soap powder, all deliveries as required, in a recent opening for miscellaneous supplies by the Navy Department, General Stores Supply Office, Philadelphia. Low bids submitted by Pacific Coast Borax Co., were as follows: item 1a, 10.7 cents; b, 10.8 cents; c, 11.2 cents; d, 11.42 cents; e, 11.03 cents; f, 10.9 cents; g, 11.9 cents; h, 10.6 cents; i, 9.5 cents; j, 10.6 cents;

k, 11.5 cents; l, 11.91 cents; m, 9.9 cents; and n, 9.9 cents. March 22, inv. 943.

## Insecticide Award

Airosol, Inc., Neodesha, Kans., received the award on a quantity of insecticide in a recent opening for miscellaneous supplies by the Federal Supply Service, Cleveland, Ohio. Airosol's bid was 49.8 cents. March 22, inv. WCL-6001.

## FSS Detergent Bids

The following low bids were submitted on 288 drums of synthetic detergent in a recent opening for miscellaneous supplies by the Federal Supply Service, Atlanta, Ga.: Colgate-Palmolive Co., Jersey City, N. J., \$4.90; Procter & Gamble Co., Cincinnati, 16.74 cents and 21.16 cents; Lever Brothers Co., New York, 18 cents, equivalent to \$4.50 a drum; Tesco Chemical Co., Atlanta, \$3.25; and New South Manufacturing Co., Atlanta, \$15.25 cwt. March 30, inv. 26243.

## QM Laundry Soap Bid

Colgate-Palmolive Co., San Francisco, submitted the low bid on laundry chip soap in a recent opening for miscellaneous supplies by the Army Quartermaster, Ogden. Colgate's bid was 6.85 cents, f.o.b. destination; and 6.56 cents, f.o.b. origin; ten days after award. April 5, inv. 76.

## FSS Soap Awards

In a recent opening for miscellaneous supplies by the Federal Supply Service, Denver, awards on soap were received by the following: Colgate-Palmolive Co., Kansas City, Mo., item 3, 12,000 pounds laundry soap, \$5.58; J. Eavenson, Camden, N. J., item 6, 18,750 pounds toilet soap, 15.16 cents; Lever Brothers Co., New York, item 1, 5,000 packages cleaner, 25 cents; Procter &

Gamble Co., Cincinnati, item 4, 50 cases toilet soap, 24.69 cents; Swift & Co., Denver, item 5, 200 cases toilet soap, 18.87 cents; and J. B. Williams Co., Glastonbury, Conn., item 2, 50 cases hard soap, \$2.02, 3 $\frac{3}{4}$  ounces. March 7, inv. 8944.

## Low Insecticide Bid

In a recent opening for miscellaneous supplies by the Navy Purchasing Office, New York, low bids were submitted by California Spray Chemical Co., Richmond, Calif., on insecticides, item 1, f.o.b. destination, and item 2, f.o.b. origin. Low bids were submitted by California Spray Chemical Co., as follows on these items: item 1a, 8.262 cents and 1b, 9.079 cents; item 2a and b, 8.049 cents. March 21, inv. 287.

## Low Swift Soap Bid

In a recent opening for miscellaneous supplies by the Federal Supply Service, New York, the low bid of 12.518 cents on toilet soap was submitted by Swift & Co., Jersey City, N. J. April 11, inv. 61262.

## Low Soap, Cleaner Bids

Low bids on soap and dishwashing compound in a recent opening for miscellaneous supplies by the Federal Supply Service, Atlanta, Ga., were submitted by John T. Stanley Co., New York, and Washington Chemical Sales Co., Washington, D. C. Stanley submitted low bids of 22 cents on item 1, 5,568 19-ounce packages of cleaner, and 15 cents on item 2, 480 containers of dishwashing compound. Washington Chemical Sales entered a low bid of 7.9 cents on 52,300 pounds of soap. April 5, inv. 26228.

## Herbicide Award

Stauffer Chemical Co., New York, received the award on herbicide with a bid of \$4.13 in a recent opening for miscellaneous supplies by the Interior Department, Bureau of Land Management, Portland, Ore. March 28, inv. 645.

# *Perfume Problems abound when it comes to Aerosol Packaging*

## **CONSIDER**

compatibility of perfume with propellant  
solubility in propellant  
stability  
corrosion of metal cans  
corrosion of valve parts  
changes in balance in perfume odor on  
dispersion in spray  
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*Be sure the perfume you select has been thoroughly tested in propellants*

## **WRITE US**

for assistance in perfuming your aerosol packaged product. Our experienced and fully equipped aerosol laboratory can suggest the right perfume and if desired will test-run it for you in your own product



**& Co., Inc.**

**601 West 26th Street, New York 1, N.Y.**

# NEW Trade Marks

**T**HE following trade marks were published in recent issues of the *Official Gazette* of the U. S. Patent Office in compliance with section 12(a) of the Trade Mark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the *Gazette*. See rules 20.1 to 20.5. As provided by section 31 of the Act, a fee of \$25 must accompany notice of opposition.

**Meldan**—This for furniture wax. Filed July 3, 1953 by Meldan Wax Co., Boston, Mass. Claims use since April 27, 1953.

**Executive**—This for liquid floor wax. Filed July 6, 1954 by Soap specialties, Inc., Philadelphia. Claims use since June 1, 1952.

**No Ho** — This for herbicide. Filed July 27, 1954 by Agricultural Chemicals, Inc., Memphis, Tenn. Claims use since on or about Feb. 1, 1949.

**X H** — This for pine oil. Filed July 28, 1954 by Crosby Chemicals, Inc., De Ridder, La. Claims use since 1938.

**Hevol**—This for heavy gravity pine oil. Filed July 28, 1954 by Crosby Chemicals, Inc., De Ridder, La. Claims use since 1938.

**Rinz**—This for anti-static for use in clothes cleaning operations. Filed Aug. 2, 1954 by Clifford Lawton Daly, Ludlow, Ky. Claims use since on or about April 1, 1954.

**p.c.p.m.**—This for halogenated aromatic thioethers, for use as germicides. Filed Aug. 5, 1954 by B. F. Goodrich Co., New York. Claims use since April 1954.

**Formula "B"** — This for deodorant cleaner. Filed July 21, 1953 by M. R. McClelland Sons, Inc., Tacoma, Wash. Claims use since March 1950.

**wilco**—This for automotive and other cleaning compositions. Filed Nov. 16, 1953 by Wilco Co., Los Angeles, Calif. Claims use since on or about Sept. 7, 1948.

**Bac**—This for deodorant soaps. Filed Feb. 23, 1954 by C. H. Boehringer Sohn, Ingelheim am Rhine, Germany. Claims German trade mark dated July 22, 1953.

**White King** — This for household cleaner. Filed Feb. 23, 1954 by Los Angeles Soap Co., Los Angeles, Calif. Claims use since Dec. 28, 1953.

**Mira-Glo** — This for combined cleaning and mothproofing composition for use on rugs and upholstery. Filed April 1, 1954 by William H. Haughery, Pittsburgh, Pa. Claims use since Feb. 12, 1954.

**Dustalayr**—This for oil preparation used for cleaning and sweeping floors and as a dust remover. Filed April 7, 1954 by West Disinfecting Co., Long Island City, N.Y. Claims use since Jan. 1, 1914.

**TraMart**—This for glass cleaner, waterless hand cleaner, and automotive cleaning specialties. Filed June 1, 1954 by Miller Sales Co., La Mesa, Calif. Claims use since 1941.

**Pen-Glo** — This for detergent for removal of acid-soluble soil, especially from railroad and trucking equipment. Filed July 1, 1954 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since April 15, 1954.

**Wetspo**—This for stain remover. Filed July 19, 1954 by Riverside Manufacturing Co., St. Louis, Mo. Claims use since May 9, 1950.

**Tem**—This for waterless hand cleaner. Filed July 20, 1954 by Lucas Products Corp., Toledo, O. Claims use since April 7, 1954.

**Moonlight Mist**—This for complexion soap. Filed July 23, 1954 by Gourielli Division of H. R. Laboratories, Inc., New York. Claims use since in or about 1944.

**Macwell-klean**—This for general purpose cleaner. Filed Aug. 5, 1954 by Mac's, Inc., Gate City, Va. Claims use since Feb. 1, 1954.

**Plax**—This for bottles and tubing of organic thermoplastic material. Filed Apr. 12, 1954 by Plax Corp., West Hartford, Conn. Claims use since April 20, 1953.

**Bingo**—This for shaving cream. Filed July 27, 1954 by Carter Products, Inc., New York. Claims use since June 1, 1954.

**Crest**—This for dentifrice. Filed Aug. 27, 1954 by Procter and Gamble Co., Cincinnati. Claims use since July 9, 1954.

**Liquid Hair**—This for shampoo. Filed June 17, 1953 by Post Institute, Inc., Tarpon Springs, Fla. Claims use since March 10, 1950.

**White-Glo**—This for white wall tire cleaning compound. Filed Oct. 7, 1953 by Barcolene Co., Boston, Mass. Claims use since Sept. 14, 1953.

**Pril** — This for spot remover, washing, rinsing, and cleaning agents. Filed Dec. 2, 1953 by Henkel & Cie., Dusseldorf-Holthausen, Germany. Claims German trade mark dated June 5, 1914.

**Z-4** — This for water jacket cleaner for use in automobile cooling systems. Filed Mar. 26, 1954 by U.S. Chemical & Supply Co., Kansas City, Mo. Claims use since Sept. 21, 1953.

**Pink Suds**—This for liquid cosmetic cleaner. Filed Mar. 29, 1954 by Richard Hudnut, New York. Claims use since Mar. 22, 1954.

**MC-3**—This for detergent de-

signed for home and dairy use. Filed April 16, 1954 by Pennsylvania Salt Manufacturing Co., Philadelphia. Claims use since Nov. 21, 1949.

**M-O-lene** — This for fabric cleaner. Filed Aug. 11, 1954 by Grant Chemical Co., Chicago. Claims use since July 12, 1954.

**OMO**—This for detergent for general washing and cleaning, and for preparation of oxygen for bleaching, cleansing, and purifying. Filed Aug. 17, 1954 by Lever Brothers Co., New York. Claims use since Mar. 8, 1910.

**Esquire**—This for boot polish, white liquid shoe polish, leather cream, and suede shoe polishing kits. Filed Feb. 8, 1954 by Knomark Manufacturing Co., Brooklyn, N.Y. Claims use since Aug. 21, 1941 on the boot polish.

**SurLuster**—This for automotive cleaning and polishing preparation. Filed Mar. 15, 1954 by Joe W. Robinson, Long Beach, Calif. Claims use since Feb. 1, 1953.

**St. Aubrey** — This for dog shampoo. Filed July 27, 1953 by Nigel Aubrey-Jones, Montreal, Canada. Claims Canadian trade mark registered Oct. 29, 1952.

**NZM**—This for skin and scalp cleaner. Filed Jan. 19, 1954 by Medicetics, Inc., Seattle, Wash. Claims use since Oct. 29, 1953.

**Rescue**—This for grease solvent and stain remover on fabrics and other surfaces. Filed May 10, 1954 by Russell B. Kingman, Orange, N. J. Claims use since Apr. 16, 1954.

**Super Wet** — This for dairy equipment cleaner. Filed May 13, 1954 by Dico Co., Des Moines, Iowa. Claims use since Jan. 1, 1943.

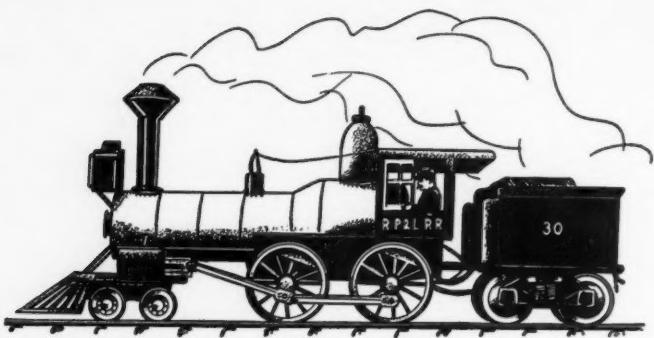
## Seeks U. S. Representative

Guido Sonderegger, director of exports for H. Reynaud & Fils, Montbrun (Drome) France, recently visited the United States. The French essential oil house is seeking representation in the United States and Canada.

## P.Q. Names New Officers

Philadelphia Quartz Co., Philadelphia, recently announced election of additional officers: three new vice-presidents are John C. Russell, sales; Charles E. Ramsey, traffic; and Thomas Elkinton, executive and personnel. J. Morris Evans was elected assistant treasurer.

Appointments of LeRoy R. Fischer as sales manager and of T. Marvin Hennessy as traffic manager were announced at the same time.



## Since the Days of the "Iron Horse..."

CHECK YOUR NEEDS  
FROM THIS LIST

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| Babassu    | Olive   |
| Castor     | Palm    |
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### ANIMAL FATS

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|---------------|---------|
| Sperm Oil     | Grease  |
| Oleo Stearine | Tallow  |
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### FATTY ACIDS

|         |                         |        |
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| Red Oil | Tall Oil                | Tallow |
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|         | Hydrogenated Fatty Acid |        |
|         | Cottonseed and Soybean  |        |
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### ALKALIES

Caustic Soda, Solid, Liquid, and Flake; Soda Ash, Light and Dense Carbonate of Potash, calcined and hydrated Calcium Chloride Tri Sodium Phosphate Tetra Pyro Phosphate Quadrafos Granular and Beads—a stable polyphosphate for water conditioning and mild but effective detergency.

**Soapers have depended on WH&C  
...for Raw Materials of Quality**

**S**INCE 1838, we've been supplying the nation's "soapers" with basic raw materials.

**SILICATE OF SODA**—Liquid powdered and solid.

**METSO\*** 200—(Sodium Orthosilicate)

**METSO\* ANHYDROUS**—(Anhydrous Sodium Metasilicate)

**METASILICATE**—"Metso"\*\* Granular.

**METSO\* DETERGENTS**—55, 66, 99.

**MAYPONS**—Unique surface active agents; prolific foam; high detergency and emulsifying powers; suitable for cosmetic and industrial use.

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# Rhodosia Scur

Developed by Rhodia to meet the ever increasing requests for "something new" for the aromatic-field.

**RHODOSIA** possesses the following chemical constants:

Refractive Index  $N^{20^{\circ}}D$ : 1.5485

Specific Gravity 25/25°C: 1.014

**RHODOSIA** is liquid at normal temperatures, viscous in nature and yellow-green in color. Its odor is reminiscent of a fresh floral bouquet, predominately wisteria.

**RHODOSIA** may be used in many aromatic compositions, as it is stable in soaps, detergents and in fine florals. It has tremendous lasting and covering powers, therefore small percentages are recommended. In the usual percentages it is compatible with aerosol propellents and highly recommended for this purpose.

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**CAUSTIC POTASH**  
45% and 50% Liquid, Flake and Solid

**CAUSTIC SODA**  
Liquid 50%, Standard, Low Iron and Rayon Grades  
Liquid 73%, Standard and Low Iron Grades Flake,  
Solid and Ground, 76% Na<sub>2</sub>O

**REFINED SODA ASH**  
Light and Dense

**NATURAL SODA ASH**  
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**NATURAL SODIUM SESQUICARBONATE**

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Westvaco renders exceptionally thorough service on the alkalis listed below. Incoming orders are checked against master records and any special customer "specs" relayed to the plant. An organized car-inspection system checks lining coils, fittings, etc., before each car is loaded. A "thief-sample" goes directly to the plant lab for check-analysis. Same-day notification of shipping date, car number and routing goes forward by postcard or telegram. Rush orders are expedited... cars checked from junction to junction if necessary... by alert Traffic Men. You can always count on "super-service" when you specify WESTVACO Alkalies.



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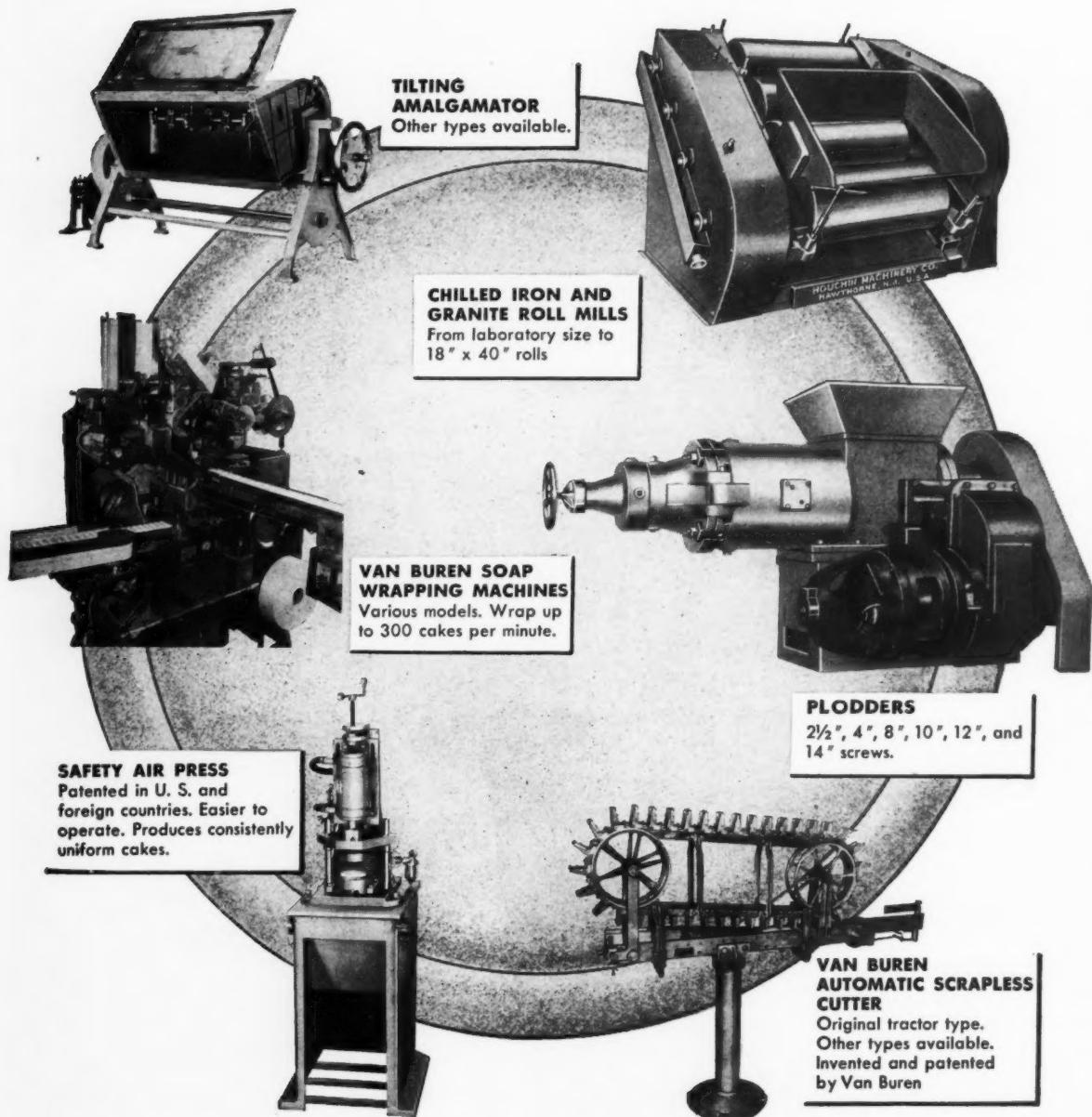
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# Production SECTION

## Dry Filling Equipment

WHILE the great bulk of powdered chemical specialties packaged today are the synthetic detergents and soap powders, there is also a sizable list of other powdered specialties which are filled with dry filling equipment. Aside from detergents and soaps, there are special cleansers, rodenticides, household and industrial insecticides, powdered bleaches, drain pipe cleaners, car washes, rug and upholstery cleaners, laundry starch, bath salts and bubble bath products, car cooling system cleaners, tooth powders, talcum powders, sweeping compounds, dishwashing compounds, weed killers, moth products, radiator sealers, water softeners, and many other chemical specialty products. These products are packaged both in bulk bags and barrels for industrial use and in various size cartons, metal, fibre and cardboard cans with either friction, screw, or sifter type tops, paper and plastic bags and other containers such as specialized squeeze containers for household insecticides which are packaged for the consumer market.

Most of these products are granular (such as soaps, detergents, cleaners, bleaches, dishwashing compounds, etc.), but they range from a fine powder (such as talcum powder and tooth powder) to coarse products (flakes such as a drain pipe cleaner or moth flakes) and moth balls. Filling such a wide range of products into their appropriate containers presents various difficulties, a few of which will be mentioned.

The biggest problem in dry filling is under- and over-weight. The density of the product can vary,

due to packing down in the hopper. Coarse products may not pack down as firmly in some packages as in others, causing underweight in the finished product. Dusting is another source of product loss in dry filling and most machines are designed to cut this to a minimum. Products may cake up and not flow freely. Mechanical operation of the shut-off devices on machines may cause over-weight in packages.

Since over- and under-weight are the most important factors to be considered in dry filling, some type of scale is an important part of every dry filling machine. An extremely simple dry filler consists of a scoop to hold the product which is attached to an over-under weight scale. The product is poured onto the scoop by hand until the proper amount is weighed out. The scoop is then tipped forward and the product slides into the package.

A more complicated, semi-automatic version of the same machine consists of a dry filling ma-

chine which fills a hopper with a pre-determined amount of product. This bulk charge is then discharged into a package, which rests on a scale. After this bulk fill, a photoelectric control unit on the scale automatically starts a dribble feed which adds additional product very slowly. When the exact amount of the product has been put into the container, the machine shuts off. This more automatic process is an outgrowth of the hand filling described above.

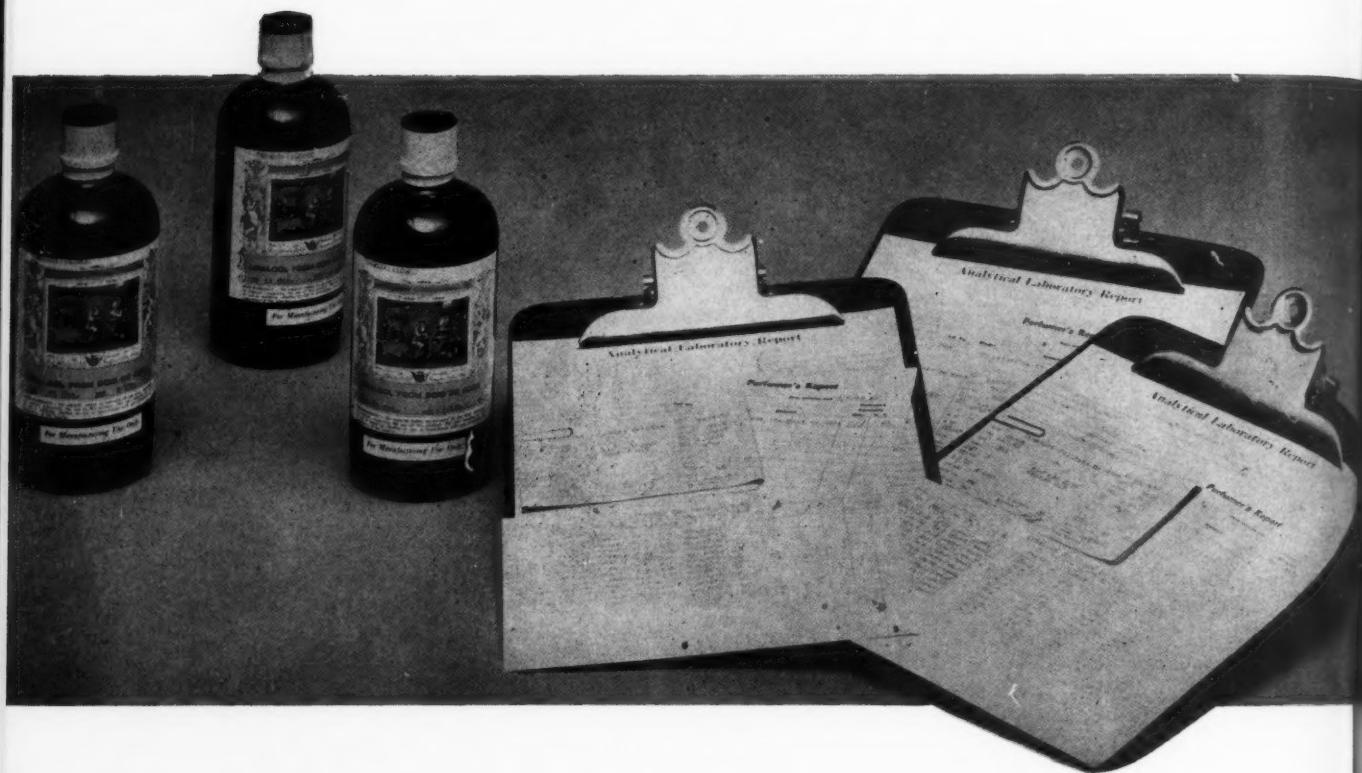
Completely automatic machines have a trap door at the bottom of the hopper. This trap door is balanced by a scale that can be adjusted for the proper amount of material to be placed in a package. When the product is poured into the hopper, it continues to flow until it offsets the weight on the scale. At this point, the flow of material into the hopper is interrupted at the same time that the trap door trips. The product pours out of the hopper into the package below.

This type of filling is either net or gross filling. If the product itself is weighed separately and then discharged into the container, it is called net filling. If the container and the product are weighed as a unit, this is gross filling. The weighing of a product before it is placed into a container (net weight filling) is probably the most commonly known form of dry filling.

This type of operation is designed so that it is entirely automatic. The product is automatically weighed out, discharged into the container and then the container is weighed automatically on electronic, fully automatic scales. This scale

**T**HIS is the second of a series of articles discussing types of machinery and equipment used in the manufacture, processing and packaging of soaps, detergents, and such chemical specialties as floor waxes, disinfectants, household and industrial insecticides, spot removers, deodorants, floor cleaners, polishes, laundry bleaches, moth specialties, rodenticides, shave products, sweeping compounds, tooth pastes and powders, glass cleaners, dish washing compounds, etc. The main purpose of this series is to present the latest types of machines and equipment available to the soap, detergent and chemical specialties manufacturer in his daily plant operations.

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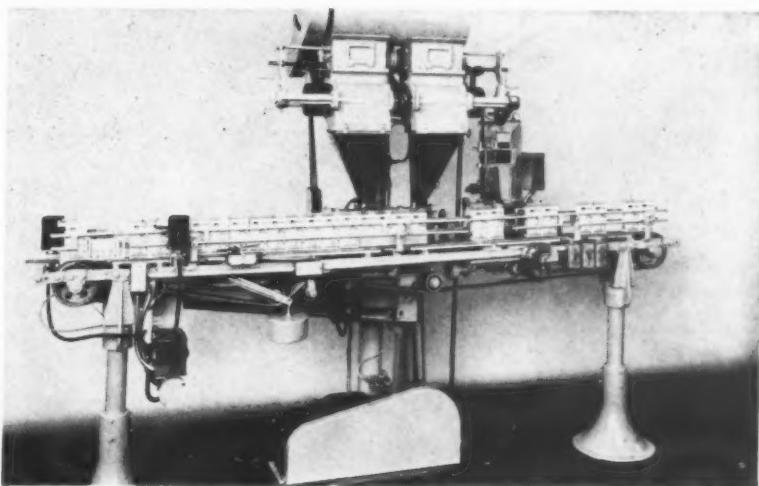
will reject packages that are either over- or under-weight.

Another dry filling machine is the volumetric type. This machine operates on the principle that a definite volume of material will weigh a certain amount at all times. However, due to variations in the product density, the measuring device must have arrangements to compensate for differences in product density and weight. The machine is fitted with an automatic adjuster which spot checks the weight of packages at all times. If the weight is either high or low, the machine automatically adjusts the volume of the measuring cup to correct the weight differences. This arrangement does away with the necessity of weighing each container. Volumetric filling is probably the fastest method. As a result, the machines are designed for continuous motion. They work on the rotary filling principle, whereby a container is kept in motion even while being filled.

The final type of filling operation for dry products is the auger method. This operation works on the principle that a predetermined number of revolutions of the auger will discharge a definite volume of the product into the container. The auger is either level with the top of the container and drops the product down into the container, or the auger is lowered to the bottom of the container and slowly withdrawn as the product is discharged into the container. Auger filling is especially useful if dusting is a problem. Auger feeders also have a vacuum attachment to exhaust the air from the container during the filling operation.

Auger filling is sometimes used in connection with a scale filling device. A bulk discharge of the product is placed in the container, which then moves to the next station. Here, while the package is weighed on a scale, a dribble fill brings it up to proper weight.

The information on the various pieces of equipment illustrated and described in this article were



Model C two unit volumetric filling machine of Battle Creek Packaging Machines, Inc., Battle Creek, Mich. Packages are conveyed automatically and registered beneath filling spouts of the machine.

supplied by leading manufacturers of dry filling machines especially adapted for the chemical specialties field. Only one machine of each manufacturer could be described because of space limitations. However, most of these companies make a complete line of dry filling equipment for chemical specialties.

**Battle Creek Packaging Machines, Inc., Battle Creek, Mich.**, manufactures a line of filling, wrapping and packaging machines. Illustrated is a Model-C 2 unit volumetric filling machine. The packages are conveyed automatically and registered beneath the filling spouts of the machine. A rotating drum measures out by volume the contents to be placed in the package and automatically discharges the contents through the funnels on each cycle of the machine, filling two packages at once.

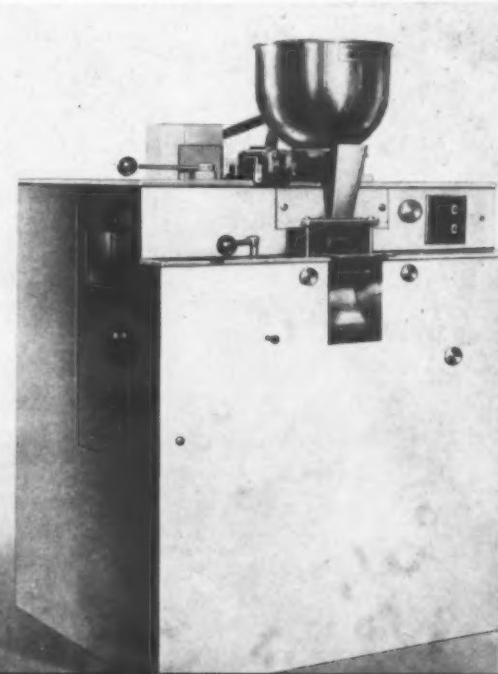
For successful operation, a volumetric filler depends upon free-flowing products which have a reasonably constant density. Inasmuch as the machine depends on measuring out a pre-determined volume of cubic inches of product and inserting this amount into a package, the weights inserted into the package will vary in direct proportion to the change in density of the product, so that control of the density of the product is necessary to prevent over-filling or under-filling of the package by weight. An electric eye control automatically ejects packages that may not be delivered to the machine properly upright for filling—together with a "low level" detector that eliminates improperly filled packages. The machine is capable of filling up to 80 packages per minute, and on extremely small packages, can fill up to 120 packages per minute.

Model C-2 may be used in an assembly line production where a special "double wrap" machine will form a lined box. The wax inner lining is cut from a roll and formed around a sealing block, the flat die

cut carton is fed out, glue is applied and it is in turn formed around the outside of the liner. This lined box is then carried to the filling machine where the product is introduced. After filling, the package is automatically carried into a top closing and sealing unit where the inner flap is sealed by heat and the outer flap is glued closed. After sealing, the carton is overwrapped.

**Brown Bag Filling Machine Co., Fitchburg, Mass.**, manufactures a line of bag filling machinery. Illustrated is the "Formapak" machine for heat sealing and packaging nearly all types of dry, free-flowing powder. The range of packet sizes is from a minimum of two inches by 2½ inches to a maximum of 4½ inches by 4½ inches. Contents of the package may weigh as little as two or three grams to as much as one ounce. Operating speeds range from 40 to 100 packets per minute. The machine is designed to operate with foils, glassines, cel-

"Formapak" machine of Brown Bag Filling Machine Co., Fitchburg, Mass., for heat sealing and packaging of nearly all types of dry free-flowing powder.



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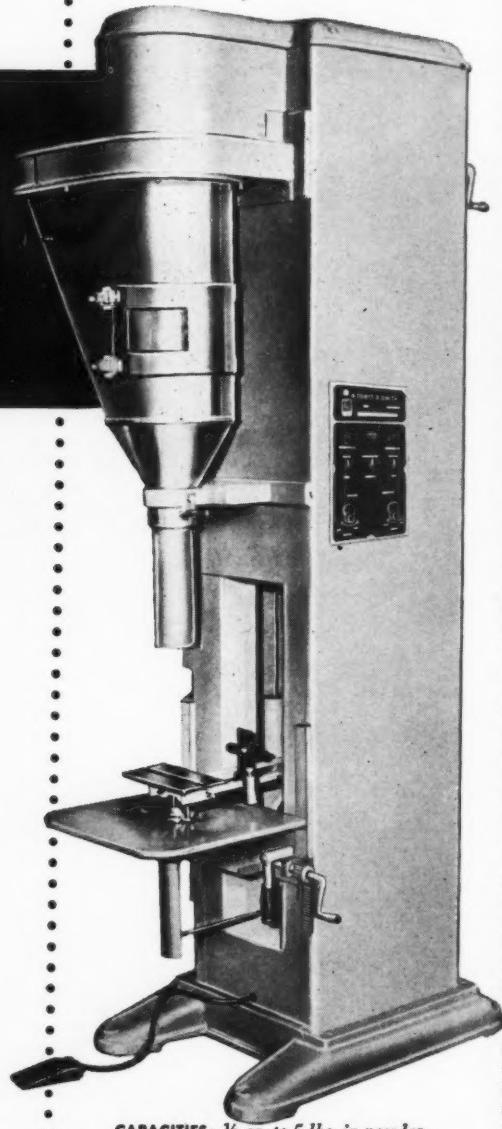
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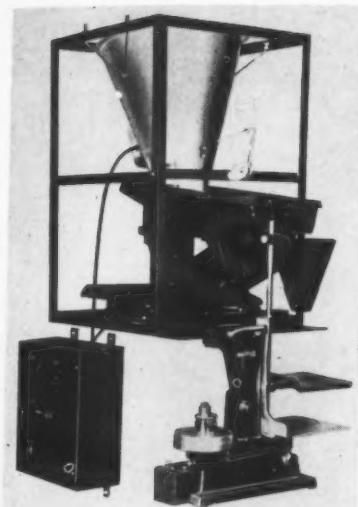
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Unit above is filler and check-weigher of Exact Weight Scale Co., Columbus, O.

phanes, filter papers, polyethylene laminates and other heat sealable paper.

The machine may be equipped with other types of filling heads for products that are not entirely free-flowing. Compressed air is necessary for operation of several moving units.

**Exact Weight Scale Co., 944 West Fifth Ave., Columbus, O.**, manufactures a line of weighing machines and check-weights. Exact Weight machines for semi-automatic filling of packages come in a variety of feeder models with scales separate. The feeders operate on 110 volt, 220 volt or 440 volt single phase alternating current. The package is placed on the scale manually. A pushbutton starts the vibratory feeder and the hopper vibrator. A bulk charge is flowed into the package. After this discharge, the electric control on the scale automatically cuts off the fast feed and hopper vibrator and starts the slow feed, which cuts off at the exact weight.

The control unit consists of an electronic amplifier unit, mounted re-

J. L. Ferguson Co., Joliet, Ill., is the maker of the "Packomatic" telescoping volumetric filler shown below. It is a rotary type machine.

mately from the scale, and photoelectric tubes with light source mounted on the scale. The fast and slow relays are operated by a fast and slow photo tube. The feeder machine controller is arranged so that the fast and slow rates of feed may be adjusted independently.

Exact Weight scales can be supplied to control most feeder machine models. However, certain recommended combinations are suggested by the company.

The "Selectrol" is a check-weighting device which sorts out overweights and under-weights from exact weight. It will classify up to 100 packages per minute, depending upon the size and weight of the object. Over- and under-weights are shunted around the main conveyor line and collected. Correct packages continue down the central conveyor system to the ultimate packing station. Electronic devices close a gate to shunt the over- or under-weight package onto their proper conveyors. They are then refilled to correct their fault.

**J. L. Ferguson Co., Joliet, Ill.**, manufactures a complete line of dry filling machines. Illustrated is the "Packomatic" telescoping Volumetric Filler, a rotary type machine. It has a product feed conveyor on top which provides a constant flow of material to the filling head. The straight-through conveyor handles round, rectangular or oval cans and conveys them on a stationary cam around the rotary filling device. The cans are gradually placed in a position where the bottom of the container rests against the bottom of the filling tube.

As the filling cycle begins, the product is poured into the container, rendering the filling cycle practically dustless. When the container is full, the cans are discharged onto the moving conveyor belt again. The unit is capable of filling up to 175 units per minute with special conveyors on round containers.

**B. F. Gump Co., 1325 South Cicero Ave., Chicago**, manufactures a complete line of automatic net weighers. The machines are equipped with either gravity or power feed,



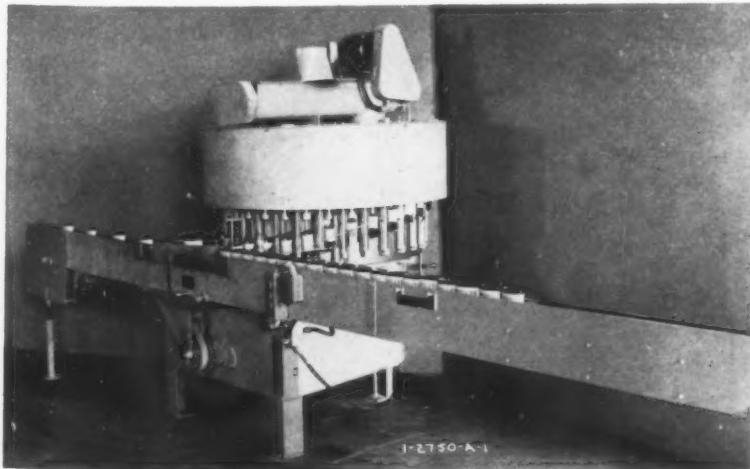
Model A-3, A-4 type S.C.A. Edtbauer-Duplex Net Weigher of B. F. Gump Co., Chicago.

and have a controlled feed attachment. The machines can be supplied with overhead carriages. Speed of operation and products handled vary with the different models. However, models are available to handle from four ounces to 50 pounds. The machines are designed in three types, to handle: free-flowing materials in small sizes; free-flowing materials in larger sizes; and non-free flowing materials.

The principle of operation is the same in all machines, the difference being in the methods used to secure a continuous flow to the weight bucket. The material flows from a supply hopper through the adjustable feed regulator into the weigh hopper. The weigh hopper collects the product until the product in the hopper offsets the counter-balance scale and settles downward. This motion trips a lock that discharges the product from the bottom of the weigh hopper. At the same time, a cradle swings into position to intercept the flow of the product into the hopper. After the hopper has discharged its load, it raises back to its original position and the cradle swings back to its original position, discharging the product it collected during the process. The next weighing cycle begins immediately.

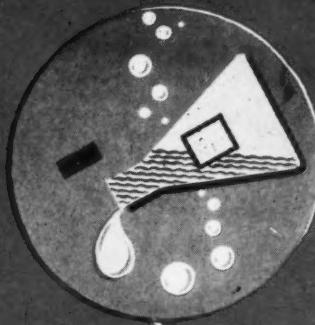
Illustrated is model A-3, A-4, Type S. C. A. Edtbauer-Duplex Net Weigher. This machine is designed for non-free flowing materials. It is equipped with a roll type power feed. Model A-3 has a weight range from three to 25 pounds with 12 to 18 discharges per minute. Model A-4 has a weight range from 5 to 50 pounds with 10 to 20 discharges per minute.

**Pneumatic Scale Corp., Quincy 71, Mass.**, manufactures a line of filling and weighing equipment. Illustrated is the "Velocitron" high speed



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"Velocitron" high speed packaging machine above, made by Pneumatic Scale Corp., Quincy, Mass., fills packages at the rate of up to 300 per minute. It measures, fills, and seals top and bottom of carton.

packaging machine. With filling speeds up to 300 per minute, the machine will set up the cartons, seal the bottom flaps, measure the product by volume and deposit it in the carton and then glue seal the top flap. Measuring is done by the use of adjustable flasks mounted on a turret, which rotates in synchronization with carton pockets. The flasks discharge a measured volume of the product into the bottom-sealed cartons as they travel in a semi-circle around the end of the machine.

A weight control apparatus is built into the machine. This consists of a "Pneumatron" check weighing device and a volume adjusting device which, by means of a reversible motor, changes the volume of all 12 measuring cups simultaneously. Depending on whether the product is over- or under-weight, the motor will turn in the right direction and vary the volume of the measuring cup to correct for the over- and under-weight.

Check weighing is accomplished by discharging the product into a weighing head, which is mounted directly below one of the 12 measuring flasks. The product is weighed in the head and then deposited into the bottom-sealed carton below. The other 11 measuring cups discharge into their respective cartons independently of the weighing operation. When the weighed discharge is found to vary from the predetermined allowable limits, the automatic volume adjustment corrects all the measuring flasks. One cycle of the turret is required for check weighing and another for correction, which means the complete operation occurs 10 to 12 times per minute.

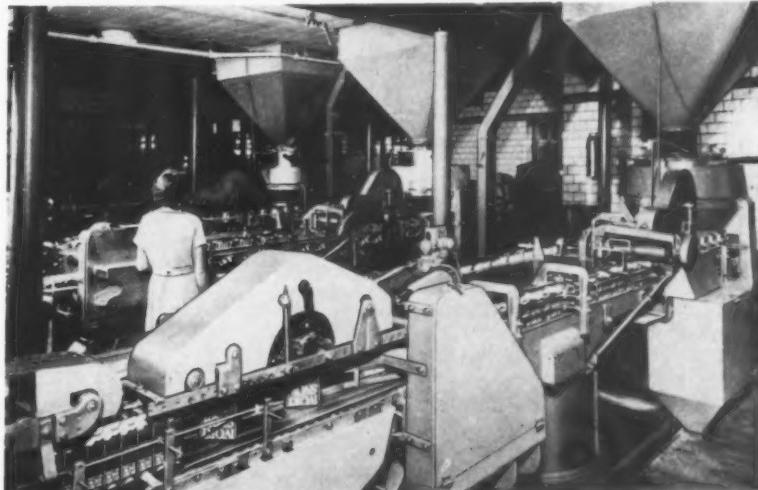
**Stokes and Smith Co., 4915 Summerdale Ave., Philadelphia,** manufactures a line of filling machinery, carton filling and sealing machinery,

bag and envelope fillers and sealers and tight-wrapping machines.

"Neverstop" carton filling and sealing machines are available in three different models, "A", "D", and "E". These machines will fill at rates from 60 (Model D) to 160 (Model A) packages per minute. These machines automatically feed cartons into the machine, bottom-seal them, fill through volumetric measuring cups, and top-seal them.

Illustrated is model 601-A "Neverstop" automatic filling and sealing machine. The cartons are bottom sealed after being fed into the machine from a supply. After this operation, they are fed into a fully enclosed volumetric rotary filling mechanism and then top-sealed. This machine operates at speeds in excess of 200 cartons per minute.

Three high speed "Neverstop" carton filling and sealing machines below are packaging "Duz" and "Ivory Snow" at Procter & Gamble plant in Cincinnati. Units are made by Stokes & Smith Co., Philadelphia.



The machines are equipped with a 40 gallon glue reservoir and circulating pipes surrounded by heaters keep the glue warm. Agitators in the glue pot control consistency.

The bottom seal is held under pressure until the carton passes from bottom folder to the filling station. Here a no carton-no fill trip mechanism prevents release of the product if there is no package in position.

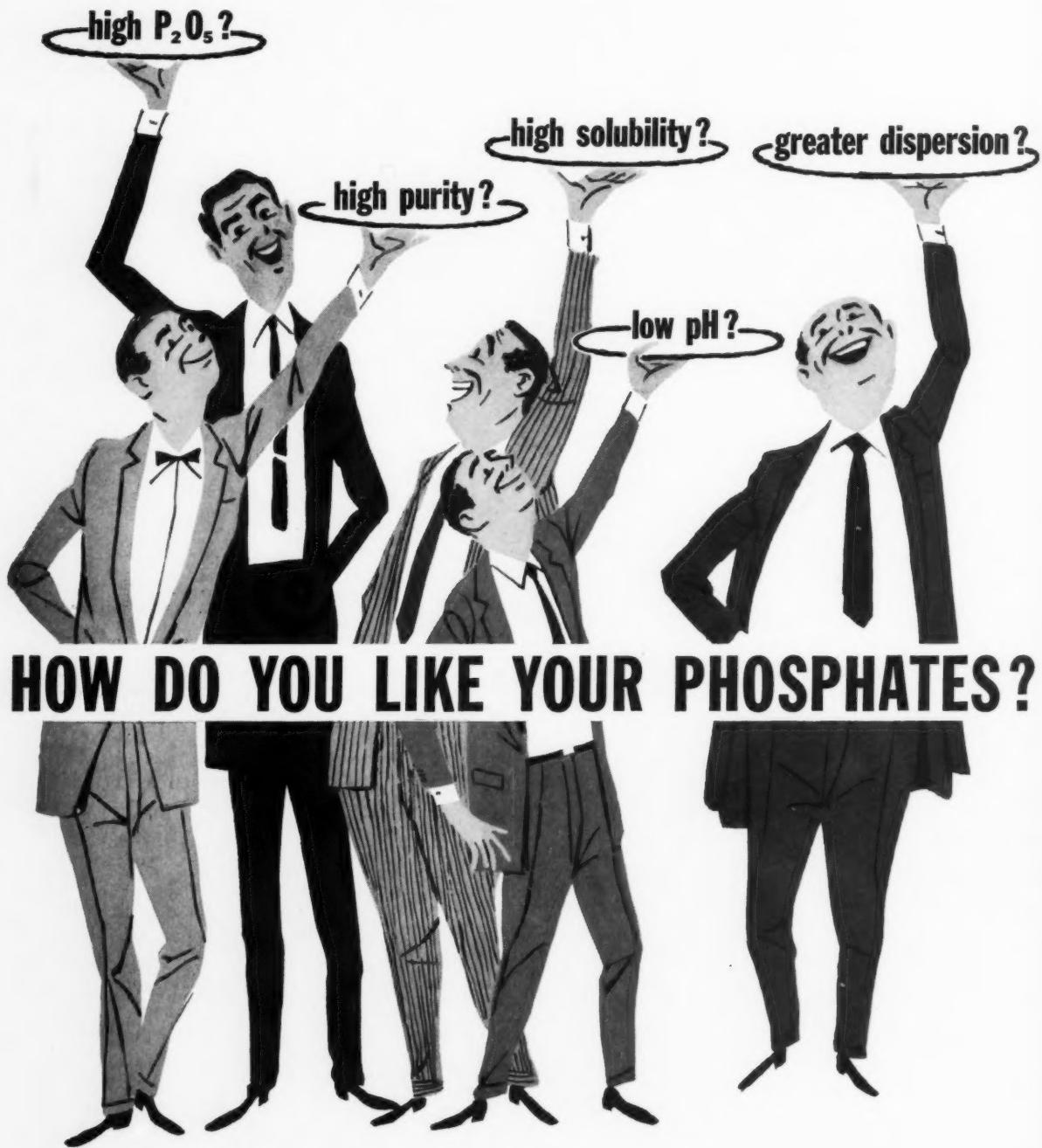
A variable speed motor can be adjusted to increase or decrease the speed of the machine. The number of cartons per minute can be readily checked on the speed indicator located in an eye-level position.

From the filling station, cartons pass an electric eye detector which automatically ejects slack-filled packages. After top sealing and sufficient travel on a drying conveyor to assure a tight-seal, the finished package is ready for the shipping cases.

**Thayer Scale and Engineering Corp., 494 East Water St., Rockland, Mass.,** manufactures a line of scales and filling equipment for bulk quantities. Illustrated is a new gross weighing scale for handling extremely free-flowing or flooding powders and for filling directly into open-mouth bags, cans or drums. Designated as Model 700G, it can be furnished for filling 1, 2, 5 and 10 pound bags and a platform will allow the same unit to handle cans. A larger unit of Model 700G can be used for filling 25, 50 and 100 pound bags with hard-to-handle products such as insecticides, spray-dried powders and others. Custom features may be incorporated in these units to suit any particular material handling problem.

Model 700 series filling scales can also be furnished as a net weighing scale for discharging preweighed loads to storage containers or for batching purposes. It can be furnished with any number of control arrangements and with a dust tight bag holder for use with toxic materials. The feeder can be furnished having a small surge hopper which contains an agitator which will auto-

(Turn to Page 125)



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# Products and PROCESSES

## Decorating Soap Bars

Soap bars can be painted with spirit lacquers or pyroxylin lacquers. The lacquer should be fairly thick if a raised picture is desired and not too transparent. Seifen-Oele-Fette-Wachse, 1955, No. 2, p. 36.

## Stain Remover With SO<sub>2</sub>

A stain remover or bleaching preparation based on sulfur dioxide is suggested. The ingredient supplying the sulfur dioxide or sulfurous acid is combined with one or several soil dissolving and fat emulsifying wetting agents and, if desired, with a plastic parent substance. German patent 831,735, Helene Wolf, Stuttgart-Bad Cannstatt.

## Soap Making Process

A soap making process is described in which a sodium carbonate solution is intimately mixed with a fatty material. The homogenized mixture is passed through a heated reaction zone in vacuo; soap is formed and CO<sub>2</sub> is recovered. Spanish patent 211,080; 1953, Antonio Ozonas Mulet, through *Chem. Abstracts*, vol. 49, p. 3560.

## Solvent Soaps

Solvent soaps containing alkyl sulfonates are made by the following method: alcohols of the terpene series are added to aqueous solutions of alkyl sulfonates, which contain solvents insoluble in water, such as solvents of the benzene series. German patent 833,989, Willy Weiss, Hamburg.

## Sulfonated Detergents

Sulfonation products of good washing and wetting properties are made as follows: Higher-molecular hydroxyl-containing organic compounds in admixture with paraffin hydrocarbons are treated with sulfur dioxide and chlorine, possibly under the influence of actinic light, to give sulfochlorination products.

These products are saponified to give sulfonation products.

In an example, a mixture (50 parts by weight) resulting from the paraffin oxidation and consisting of higher aliphatic alcohols as well as paraffin hydrocarbons (OH no. 164; average no. of C atoms 14) is treated at 50° with a SO<sub>2</sub>/Cl mixture (volume ratio 1:2) until a sample gives a readily water-soluble saponified product. Saponification of the sulfochlorination product with aqueous sodium hydroxide yields a product containing sulfonates as well as sulfates, useful as a washing and wetting agent. German patent 765,194, 1951, Henkel & Cie.

## Metal Polishing Cloth

A rag intended for cleaning metal surfaces is treated with a mixture of turkey red oil, cyclohexanol, carbon tetrachloride, petroleum, oleic acid and siliceous chalk. German patent 849,884, Gustav Schack & Co., Copenhagen, Denmark.

## Primary Amines in Syndets

Primary amines or their salts having a hydrocarbon radical with at least four carbon atoms are added to washing compounds which contain as active detergents higher aliphatic sodium sulfonates. The resulting products are said to be especially suitable for washing animal fibers. German patent 836,983, Farbenfabriken Bayer, Leverkusen.

## Becco Makes Perlauric

Perlauric acid whose salts are germicidal soaps has been prepared in the laboratories of Becco Chemical Division of Food Machinery and Chemical Corp., Buffalo, N. Y., it was announced recently. Made by reaction of 90 percent peroxide with molten lauric acid in the presence of a strong catalyst the product is a white waxy solid of good stability after crystallization, insoluble in water and

soluble in ethanol, acetone, hexane, benzene, and chloroform. On solution in alkali perlauric acid forms a germicidal soap with bactericidal-fungicidal activity said to considerably exceed that exhibited by sodium laurate. Alkaline solutions containing salt of perlauric acid exhibits in addition to this germicidal activity the surface active properties associated with lauric acid soaps.

## New Guardian Antioxidant

The development of a new antioxidant, "Voidox" for use in soaps, edible and industrial oils, was announced recently by Guardian Chemical Corp., Long Island City, N. Y. The new antioxidant is a white, waxy appearing product that is claimed to be odorless and tasteless, and free of toxicity in all use concentrations. It will retard rancidity, darkening and loss of potency in concentrations as low as one pound in a ton.

## New D & O Soap Fragrance

An alcohol for use as a partial or complete replacement for linalool or bois de rose in soaps or soap preparations was introduced recently by Dodge & Olcott, Inc., New York. Called "Bodolo" the product is said to be stable in soap and to cause no discoloration.

D & O announced at the same time "Floritys," a new perfume specialty said to blend well with jasmin, rose, carnation and woody notes.

## New "Chempro" Bulletin

Chemical and Power Products, Inc., New York, has recently published an illustrated four-page folder describing "Chempro" wedge-lock mechanical seals. The new line of mechanical seals is said to require only 20 to 30 minutes for installation and to give efficient and economical service on pumps handling acids, caustics, solvents and other liquids and slurries under a wide range of operation conditions. Bulletin CP551 is available from Chemical and Power Products, Inc., 11 Broadway, New York 4.

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## Monsanto Offers Fumarate

Dibutyl fumarate, a chemical intermediate and reactive resin is available in semi-commercial quantities from the organic chemicals division of Monsanto Chemical Co., St. Louis, Mo., it was announced last month. Said to be of interest in a wide variety of fields the compound is described in detail and various applications are suggested in Monsanto Technical Bulletin No. ODB-54-18, available from the division.

— ★ —

## G-11 Literature Review

A revised bibliography of the literature on "G-11" (hexachlorophene) was published last month by Sindar Corp., New York. References to and abstracts of 136 scientific and trade articles and abstracts of 19 patents, foreign and domestic, dealing with "G-11" are presented in the bulletin. The index of this revised edition has been changed and divided into eight categories which are in turn subdivided into narrower subjects.

— ★ —

## New Rhodia Alasmask

Rhodia, Inc., New York, recently announced the addition of "Alasmask" P6D to its line of reodorants for alkaline pulping. The product is suitable for both winter and summer operations. It is claimed to offer good odor coverage of non-condensables, to be less aromatic than similar products, to show good solubility and stability in digester and recovery operations, and to be economical in use.

— ★ —

## Rust Inhibitor Data

Monsanto Chemical Co., St. Louis, Mo., recently published a 20-page booklet describing "Santolene C" rust and corrosion inhibitor for petroleum products. The product has a strong affinity for metal surfaces and controls corrosion by establishing a film or barrier between metal surfaces and corrosive element. A given volume of product needs to be treated only once. The booklet is available from Monsanto on request.

**By E. G. Thomssen, Ph.D.**

In our discussion of production problems last month, we considered economies in manpower and materials, as well as savings through improved operating procedure and/or installation of modern machinery and equipment. Savings are also possible in other phases of production which may escape the attention of plant supervisors. Such economies are not as tangible as those discussed in the April issue, yet they are just as real.

Last month we were concerned chiefly with the physical aspects of improving the production organization and its mode of operation. This month's discussion will feature more efficient production through better attitudes toward work on the part of the plant's staff. We will also consider how employees can perform their duties better and more easily by improving their work skills.

An employee's "desire to work" can be stimulated in a number of ways. One is through inspiration; the other by providing pleasant physical working conditions.

Intelligent supervision can aid materially in stimulating the quality and quantity of work done by employees. Foremen and forewomen should conduct their supervisory duties to create an atmosphere in which employees feel they are working "with" rather than "under" supervisors. A common error of supervisors is to spend too much time in performing routine production work themselves. Instead they should be doing more constructive planning and supervising of production. Employees do not like close supervision. They do better work if they feel they are "on their own." "Snooping" by supervisory personnel results in declining production, and eventually leads to resentment.

Where feasible it is sound employee relations to discuss supervisory problems with employees. Employees are flattered when their opinions are asked, especially when some of their suggestions are followed. They usually work harder under such circumstances, since they feel they are "part of the team."

The wise production supervisor does not, in the presence of others, upbraid an employee who has made a mistake. It is far more effective to discuss the matter privately with the employee. This spares the employee's feeling and is an aid in discovering how the mistake was made and how it can be avoided in the future.

Based on observations made in visiting many plants throughout the U. S. and elsewhere, I have found that generally more consideration is given to the physical comfort of office personnel than the factory staff. It is true that the problem of dirt usually is more difficult to control in the plant than in the office. However, this does not necessarily mean that physical working conditions in the factory should rate less attention than those of the office. Cleanliness and orderliness are housekeeping problems. In addition

to neglect of these, excessive noise and heat in a plant can cause discomfort for employees and reduce their efficiency and output. Other hindrances to production efficiency are unpleasant odors and dust.

More often than not one finds office personnel doing light work in an air conditioned area. Not far away one finds sweating factory employees performing physically laborious jobs in a place where there is no air-conditioning and the temperatures are elevated. Greater attention to temperature and humidity control in factories as well as offices can pay dividends. Highest levels of production are attained in moderate temperatures. It is not necessary in every case to install air conditioning equipment. In one plant I visited recently comfortable working conditions were achieved by keeping the relative humidity down. In this case it was preferred to complete air conditioning and resulted in greater and better production. In many of the more modern plants water is permitted to collect on roof tops, particularly of one story plants, to reduce the temperature during the warmer months.

Noise affects the nerves of virtually everyone. In many plants machines and equipment are permitted to operate noisily, when with a little ingenuity the sound could be greatly reduced. Sound conditioning is almost as important as air conditioning. In the field of noise abatement we find non-factory executives boasting about sound-proofing installations. Yet, even in such a plant one is apt to find high decibels of unnecessary noises. Simple methods of overcoming excessive noises in the plant, once the cause has been determined, include the installation of a few partitions or mounting machinery on cushioned pads. Sometimes, merely the installation of proper oilers on a piece of equipment is enough to reduce or eliminate the noise.

The ability to do good work is mostly a matter of education. In the plant, the supervisor is the teacher. Although some supervisors

Dr. Thomssen





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Baroda & Page, Inc., Houston, Dallas, Corpus Christi, New Orleans,  
St. Louis, Wichita, Oklahoma City, Tulsa, Kansas City, Mo.  
Braun-Knecht-Heimann Co., Salt Lake City, Utah

Braun-Knecht-Heimann Co., San Francisco, Calif.  
Van Waters & Rogers, Inc., Seattle, Wash. & Portland, Ore.  
Braun Corporation, Los Angeles, California  
George Mann & Co., Inc., 251 Fox Point Blvd., Providence, R. I.  
European Manufacturing Agent:  
Rexolinfabriken Aktiebolag, Helsingborg, Sweden



are better at breaking in new employees than others, the following points can aid in teaching employees a new job:

1.) The important aspects of a new job should be reiterated during the teaching period. This helps the employee to understand his work more quickly.

2.) Give reasons why the operation (s) are to be carried out in the way suggested. If the employee understands why a thing is to be done in a certain way he will follow his instructions more closely and do better work. Request the person being instructed to carry out his duties as directed and, later, if he has any improvements to suggest urge him to do so. This increases his confidence and later may result in constructive suggestions about the work.

3.) Don't rush the beginner in breaking him in, and don't appear impatient. Some learn more slowly than others. Sometimes the slower learners, once they get the knack of the work, are more steady and more thorough than those that learn more quickly.

4.) Never single out an adept employee as an example of efficiency. It is preferable to ask the skilled employee to make suggestions to augment those given by the supervisor.

In summary, we should like to point out that the desire on the part of the employees to work is as important to plant supervision as methods of performing the work. By constantly stimulating this desire and by proper supervision and instruction, both quality and quantity of output can be increased.

#### Insulation for Tanks

**A**METHOD for fully insulating and weather-proofing propane storage tanks and auxiliary piping recently has been devised by Emjay Maintenance Engineers, Rutherford, N. J. The Emjay system is designed to protect LP gas tanks and their contents against ambient fires and exposure to severe weather.

The efficiency of the Emjay

system under simulated fire conditions has been demonstrated. Rather than do impractical, full-scale testing, test tanks were designed. The relationship of the size of the liquid volume of the test tanks to the area of the tank ends exposed to direct flame was the same as for the full-size, 30,000 gallon propane tanks. The ratio proved to be 15 gallons of tank contents for each square foot of surface exposed to flame.

The temperature increases recorded after lengthy impingement on tank ends by naked gas flame indicated that insulating efficiencies of the coatings on the three test tanks used were 93.9, 89.9 and 94.6 percent, respectively, which was well above requirements.

The conclusion in a report on the tests made by a registered professional engineer who supervised them states: "Not only did all of the samples come through these fire tests in excellent condition, but it is confidently believed that they would withstand all practical field conditions to a point that warrants their unqualified recommendation for general tank protection."

#### Remote Pressure Gauge

A TWO-phase pressure reading instrument which may be located at distances remote from primary devices without regard for hydraulic elevations was developed and announced recently by Simplex Valve and Meter Co., Philadelphia. Designated the "Laminair," the unit was developed to provide more accurate and sensitive type of instrumentation. The instrument is a mechanism which balances a single air pressure against any differential pressure produced by a venturi tube, flow nozzle, orifice plate, or the difference between two existing levels of pressures, which pressure is then transmitted, and used by a distantly located instrument.

The device is composed of a unit at the point of operation, and another one more remote. The first is the differential converter which converts fluid pressure to air pressure. The second is a bellows type

receiving mechanism which records the air pressure and shows it on a dial. Since the air consumption for each converter averages only 0.1 CFM of free air, the "Laminair" is economical to operate. A small, self-contained air compressor, having but a few cubic feet capacity, is sufficient for the average small community filter plant or an average meter installation.

#### Floor Paint

A VINYL based paint for use on concrete floors that is impervious to grease and oil is now being produced by National Vinyl Products Co., Redwood City, Calif. The new paint, trade named "Drip Carpet," is claimed to be readily removed. The product is also said to

be easy and effective to apply for patch-up jobs.

#### Odor Control

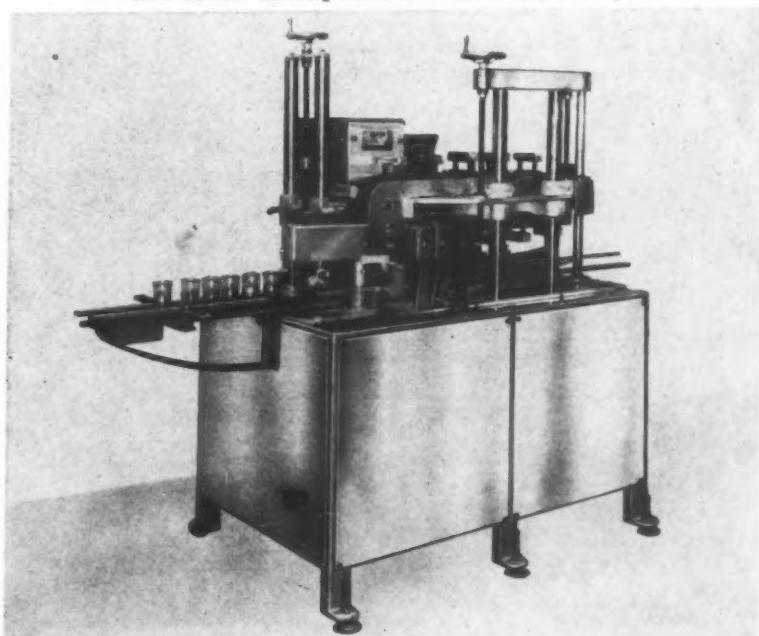
IT is interesting to observe the increased emphasis being given to odor control by the essential oil and aromatic chemical industry. A recent survey of the literature was replete with suggestions for control of unpleasant odors in a wide range of products including paints, adhesives, plastics, textiles, and petroleum products, as well as aerosols, synthetic detergents, etc. Environmental control of odors in factories and food processing plants were also covered. The addition of a small amount of an odor neutralizing compound can result in remarkable improvements in the elimination of offensive odors, the literature points out.

#### New MRM Labeler

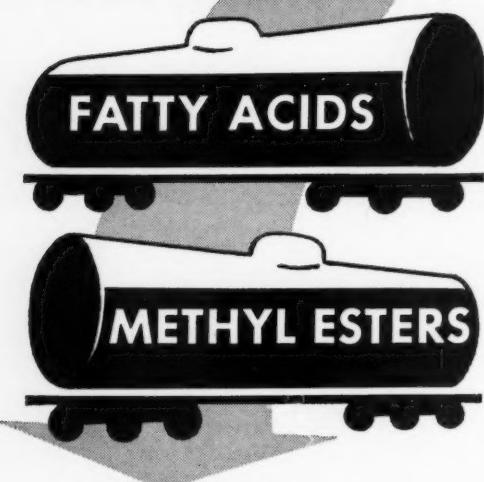
A new labeling machine that features flexibility and is capable of changing over from any size or shape label from a fraction of an inch to six by six inches, or larger, was announced recently by MRM Co., Brooklyn. Changing label sizes can be accomplished in "a matter of minutes," according to the maker. Changing from one size container

to another is done in about 15 minutes and requires an absolute minimum of interchangeable parts. Labels can be applied to flat, curved or recessed surfaces and coating never oozes out to the edges, according to MRM. Another feature is quick changeover from glue to thermoplastic operation. MRM Co. is located at 191 Berry St., Brooklyn 11, N. Y.

New flexible labeling machine of MRM Co., Brooklyn



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## New Kontro Heat Transfer Unit

A SERIES of new centrifugal single-pass, thin-film heat transfer units for soap, detergent and fat processing was introduced recently by Kontro Co., Petersham, Mass., an affiliate of Artisan Metal Products, Inc., Waltham, Mass. Called "Ajust-O-Film" because of their film thickness adjusting features, these units can be continuously and automatically operated under either vacuum or gas pressure as well as at high temperatures if desired. Among applications suggested for these machines are sulfonation of detergents with gaseous SO<sub>3</sub> or oleum, and continuous bleaching of edible and inedible stocks with almost complete recovery.

The unit operates as follows: The product to be processed enters the unit at (1) and is whirled against and kept in violently agitated contact with the heated or cooled, inclined processing wall (2) by the blades (3) on the revolving rotor (4) driven by the motor (5). For some operations the clearance between blades and processing surface is as little as 1/32 of an inch. During its flow through the unit the product is processed to the desired degree by hot water, steam, "Dowtherm," etc., or a coolant admitted at (10) to the jackets (7) and then drops into the outlet pipe (6) where it is withdrawn by a pump or other

suitable means. Film thickness is varied by moving the rotor further into or out of the processing chamber, thus varying the treatment period. Vapors which may develop as a result of the operation pass concurrently to the flow of the product through the centrifugal separator (8) where any remaining foam or entrainment is removed, and then out the vapor pipe (9). For special applications the vapor flow can be counter-current. The above description applies to the "down-hill" model. The construction of the "up-hill" model is the same, but the product moves in the opposite direction toward the smaller end of the processing chamber.

The "Adjust-O-Film" units are horizontally mounted, which makes for easy installation, economy in space, and easy cleaning, according to the manufacturer. They are available in most corrosion-resistant metals and in several sizes. They are made for Kontro by Artisan Metal. A brochure with further details can be obtained by communicating with Department SC, Kontro Co., North Main Street, Petersham, Mass.

### New Vacuum Dryer

Patterson Foundry and Machine Co., East Liverpool 1, O., has issued a four-page illustrated folder describing its recently developed

"Conaform" vacuum dryer. Recommended for drying materials which are sensitive to drying temperature and easily oxidized, the "Conaform" is a rotating unit of double cone construction made in capacities ranging from one to 235 cubic feet. Speedy, dustless operation is claimed for the dryer. A "Conaform" pilot plant is available for trial runs of customers' samples. Leaflet and further information may be obtained from the manufacturer.

### Booklet on Nonionics

A new product information booklet on the "Siponics," nonionic surface active agents, was announced recently by American Alcolac Corp., 3440 Fairfield Road, Baltimore 26, Md. The new product book fully covers the physical properties and many uses of three new "Siponics" now available from the firm. These are: "Siponic TO," tall oil ester; "Siponic AP," alkyl-phenol ether and "Siponic BC," branched chain alcohol ether. Copies of the booklet are available on request without charge.

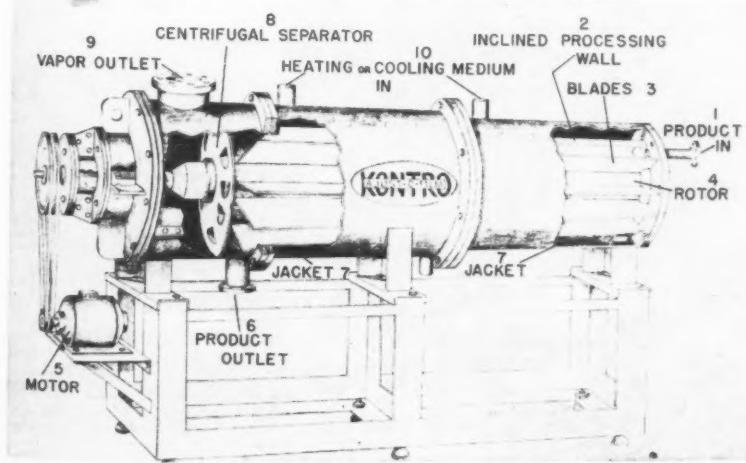
### History of Unilever

"The History of Unilever" is the title of a volume published recently by Cassell & Co., 37 St. Andrews Hill, London, E.C. 4, from whom it is available at a cost of 45 shillings or \$6.30. This is the history of the international company of Unilever formed 25 years ago when the British firm of Lever Brothers merged with the Dutch Margarine Union. Today Unilever employs nearly 250,000 people, represents capital supplied by 300,000 investors, and buys and processes more than a third of the world tonnage of oils and fats.

### 25th Chemical Show

The 25th Exposition of Chemical Industries will be held at the Commercial Museum and Convention Hall, Philadelphia, Dec. 5 to 9, 1955. The event is under the management of the International Exposition Co., New York.

New Kontro unit for processing soap, detergents, etc.



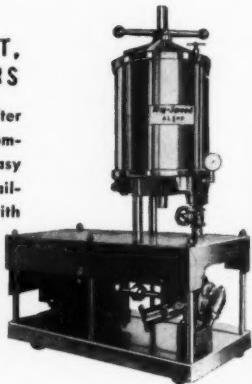
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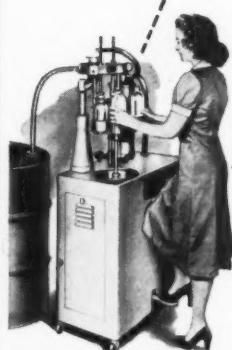
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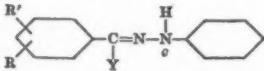
# NEW Patents

The data listed below is only a brief review of recent patents pertinent to the readers and subscribers of this publication. Complete copies may be obtained by writing to the publisher of this magazine, Mac Nair-Dorland Co., 254 W. 31st Street, New York 1, N. Y., and remitting 50c for each copy desired. For orders received from outside of the United States the cost will be \$1.00 per copy.

**No. 2,704,279. Toilet Soap and Process of Preparing Same**, patented by Robert Franklin Heald, Nutley, N. J., assignor to Colgate-Palmolive Company, Jersey City, N. J. The patent covers an improved and essentially unbuilt milled toilet soap in bar or cake form. The soap consists essentially of at least about 60% of anhydrous water-soluble metallic salts of higher fatty acids with about 4 to about 30% of water-soluble higher fatty acid monoglyceride monosulfate detergent uniformly dispersed throughout, and about 5 to about 15% moisture.

**No. 2,703,798. Detergents from N-Monoalkyl-glucamines**, patented by Anthony M. Schwartz, Washington, D. C., assignor to Commercial Solvents Corporation, Terre Haute, Ind. Disclosed is a detergent composition comprising the reaction products obtained by reacting an aliphatic ester of a fatty acid having from 6 to 30 carbon atoms with an N-monoalkylglucamine containing from 1 to 8 carbon atoms in its alkyl group in about equimolecular proportions at temperatures between about 140° to 230° C. until a homogeneous mass having detergent properties is produced.

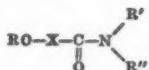
**No. 2,703,751. Herbicidal Compositions**, patented by Dexter B. Sharp, Vandalia, Ohio, assignor to Monsanto Chemical Company, St. Louis, Mo. A herbicidal composition is described comprising an oil-in-water emulsion containing a phytotoxic concentration of a phenylhydrazone having the formula



in which R and R' are selected from the class consisting of hydrogen, chlorine, alkyl radicals of 1 to 3 carbon atoms and alkoxy radicals of 1 to 3 carbon atoms and Y is an alkyl radical of 1 to 3 carbon atoms.

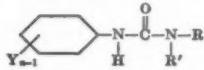
**No. 2,704,280. Long-Chain Ali-**

**phatic Ether-amides in Detergent Compositions**, patented by James Rutherford Trowbridge II, New York, N. Y., assignor to Colgate-Palmolive Company, Jersey City, N. J. The patent discloses a detergent composition consisting essentially of a detergent elected from the class consisting of water-soluble anionic organic sulfate and sulfonate detergents, and an organic builder represented by the formula:



wherein RO — is a higher alkoxy radical, X is a saturated lower aliphatic radical, and R' and R'' are each selected from the group consisting of hydrogen and saturated lower aliphatic radicals, the proportion of detergent to said organic builder being from about 50:1 to about 2:1 by weight.

**No. 2,705,195. Herbicidal Compositions and Methods Employing Solutions of Substituted Ureas in Monohydric Phenols**, patented by Harold E. Cupery, New Castle County, and Norman E. Searle and Charles W. Todd, Wilmington, Del., assignors to E. I. du Pont de Nemours & Company, Wilmington, Del. A herbicidal composition is covered comprising a solution in a monohydric phenol of a urea represented by the formula



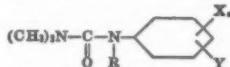
wherein Y is selected from the group consisting of chlorine, bromine, nitro, and alkyl containing 1 to 6 carbon atoms inclusive, η is an integer from 1 to 4 inclusive, R is alkyl containing 1 to 2 carbon atoms inclusive, and R' is a radical from the group consisting of hydrogen and alkyl containing 1 to 2 carbon atoms inclusive. This urea is present in the composition in a concentration sufficient to exert herbicidal action.

**No. 2,705,212. Composition for Control of Mite and Insect Pests**, patented by Eugene E. Kenaga, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich. The patent deals with a composition for the control of mite and insect pests comprising as active toxic ingredients from 0.1 to 20 parts by weight of toxaphene for each 10 parts of the 4-chlorophenyl ester of 4-chlorobenzene sulfonic acid, the active toxic ingredients of such composition being mutually activating.

**No. 2,705,213. Composition for Control of Mite and Insect Pests**, patented by Eugene E. Kenaga, Midland, Mich., assignor to The Dow Chemical Company, Midland, Mich. A composition for the control of mite and insect pests is disclosed. Active toxic ingredients are from 0.009 to 25 parts by weight of 1,2,4,5,6,7,8,8-octachloro-4,7-methano-3a,4,7,7a-tetrahydroindane in

mixture with 1 part of 4'-chlorophenyl 4-chlorobenzene sulfonate, the active toxic ingredients of such composition being mutually activating.

**No. 2,704,245. Pesticidal Tetra-substituted Ureas**, patented by Norman E. Searle, Wilmington, Del., assignor to E. I. du Pont de Nemours and Company, Wilmington, Del. A tetra-substituted urea described here is represented by the formula



where R is an alkyl radical up to two carbon atoms, X is halogen, η is a positive integer up to three, and Y is selected from the group consisting of hydrogen and alkyl of 1 to 4 carbon atoms, the aromatic substituent having hydrogen on at least one of the nuclear carbons ortho to the nuclear to which the urea nitrogen atom is linked.

## Monsanto Advances Haun

J. W. Haun has been advanced to the post of group leader in the research department of the Plastics Division of Monsanto Chemical Co., St. Louis, Mo., it was announced recently. Dr. Haun joined Monsanto in June 1950 at Springfield, Mass., and transferred to Texas City in May 1954.

## Tall Oil Group Changes

The former Tall Oil Association became the Tall Oil Division of the Pulp Chemicals Association at the tall oil group's recent annual meeting. Albert Scharwachter, Arizona Chemical Co., New York, will be the division's chairman and A. E. Griffin, Camp Manufacturing Co., Franklin, Va., its vice-chairman.

At the meeting, a new parent organization, the Pulp Chemicals Association, was formed with Mr. Scharwachter as president and Leonard J. Doyle, Union Bag & Paper Corp., New York, as vice-president. A new tall oil fatty acids division and a sulfate turpentine division were also formed. The new association's headquarters will be at 122 East 42nd Street, New York, former address of the Tall Oil Association. Dernell Every will serve as secretary, T. K. Heston as assistant secretary, and I. B. Oseas as counsel for the newly formed association and each of the divisions.

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A classification of a series of Alkyl Aryl Sulphonates.

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**RUETERG 57M** — Liquid, 42.2% active. Excellent resistance to hard water.

**RUETERG 40T** — Low Cloud point, light color. 27% active.

**RUETERG SULPHONIC ACID** — Concentrated Alkyl Sulphonic Acid, 70% active. Raw material for producing liquid detergents.

**RUETERG 40U** — Liquid, 26% active. High Cloud point. Low price.

### TAURANOL

A series of synthetic detergents produced by the reaction of various fatty acids with organic sulfonates.

**TAURANOL MS** — Oleic Acid Base-White slurry form. 45.8% active.

**TAURANOL ML** — Oleic Acid Base-Clear liquid. 33% active.

**TAURANOL MG** — Oleic Acid Base-Popular, clear, heavy gel. 18% active.

Other TAURANOLS derived from Coconut, Tallow and refined Tall Oil Acids.

**SULPHONATED OILS** — Olive, Sperm, Castor, Peanut, Red, Linseed and Tall.

Write or phone for technical bulletins on each or any of these products. Special bulletin issued on *Emulsifying With RUETERG 97S*, including formulations for solvents, animal, vegetable and mineral oils for general cleaners and others. Price quotations submitted upon request.

# FINETEX

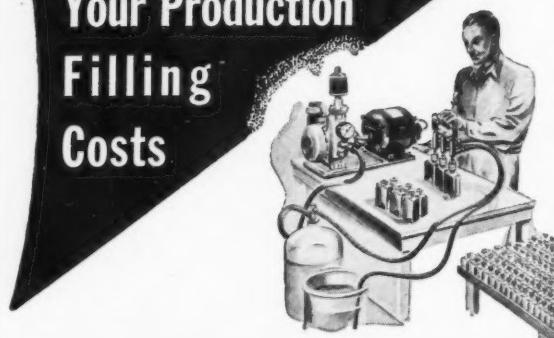
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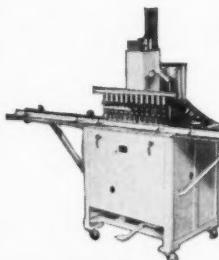
**ERTEL BOTTLE FILLERS MEET DEMAND  
FOR 40-80 BOTTLES PER MINUTE, and**

**Materially lower  
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Costs**



### ERTEL PORTABLE FILLER

This Vacuum Bottle Filler belongs in every plant. Fills batch or sample lots of materials at lowest cost; for small operations where large expensive equipment is not practical. Fully automatic overflow—no drip spouts. Instantaneous flow —won't fill defective or cracked bottle.

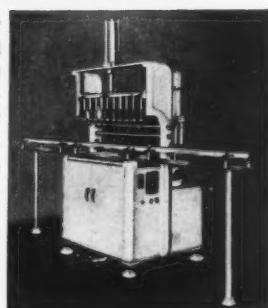


### ERTEL ESA FILLER FOR SMALL BOTTLES

The most practical filler for small bottles in quantities of 40 to 60 per minute. To appreciate this unit it should be viewed in operation — the finest low cost trouble-free unit on the market.

### ERTEL PNEUMO-VAC FILLER Filling Range 3" to 13" High Bottle

For speeds up to 40 quarts per minute, this precision Ertel filler has no equal. New type spouts positively prevent drip-page. Available with circulatory passages either bronze, plated, or stainless steel. Adjustments are simple and require but a few seconds time. If you have a filling problem see the Pneumo-Vac — it's designed for low cost operation.



Ask to have an Ertel representative show you why Ertel Fillers are so enthusiastically acclaimed by users in the pharmaceutical, drug, cosmetic, chemical and food industries.

### ERTEL ENGINEERING CORPORATION

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*Liquid Handling Equipment*

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SEE YOUR  
THOMAS  
REGISTER



SOAP and CHEMICAL SPECIALTIES

By John W. McCutcheon

**L**AST month in this column we mentioned the meeting of the American Chemical Society in Cincinnati, at which a symposium on detergent literature was featured. The highlights of four of the six papers presented will be reviewed in this month's column; the remaining two will be reported on in the June issue.

The first paper, by James W. Perry of Massachusetts Institute of Technology, covered "Concepts of Terminology in the Detergent Field." The discussion centered on the fundamentals of surface activity and the terminology used to express such fundamentals as hydrophobic, polymerized olefines, auxiliary builders, colloidal aggregations, solubilizing effects, critical micelle concentration, etc. Certainly a technologist today making a literature search in the field would not get far unless he had these common terms at his finger tips. The author then went on to say that understanding the fundamental concepts of surface activity is essential in order to be able to transfer accumulated knowledge from one field of use to another. Wetting, as applied to such diverse operations as dyeing of textiles, extinguishing fires, and dispersing pigments, was used to illustrate the point.

The point of view taken in this paper is quite different from one the writer would have used, and illustrates the breadth of the surfactant field and the varied interests that occur.

The writer, of course, has been dealing for some time with trade name products and terminology to him suggests terminology associated with products. Here a researcher studying the literature must not be misled by present practice. For example, dodecylbenzene sodium sulfonate properly describes a very common and widely used



type of detergent. A few years ago, it was usual practice to refer to this product by the more generic term "alkyl aryl sulfonate." Therefore, anyone studying the literature on such a product would also have to include in his literature search the basic term. In addition, he would even have to include, under certain circumstances, the alkyl naphthalene sulfonates, particularly if he were studying the basis of a patent, infringement or the history of the process, etc.

Again, a study of glycerol monostearate would probably be started best by direct reference in the abstracts to that title, since around this nucleus much information has been built up. The further back one goes with the search, however, the broader the terminology becomes. Fifteen or twenty years ago when these products were first being introduced as food emulsifiers, headings such as glycerol esters of fatty acids, fatty esters, emulsifiers, etc., would be required. In special cases, a research study on reaction rates of glycerol and stearic acid would have to include such products as the esters of acids not generally classed in the fatty range such as capric, caproic, nonylic, etc. It can readily be seen that from this viewpoint terminology in this

field could form the basis for a large number of papers.

In a paper on "Sources of Information on Detergents from the Technical Literature," the author, Dr. Donald Price, New York consultant, listed the publications in which the information on this subject is most readily available. One large source of help are the trade magazines devoted to specific industries. Mr. Price mentioned as an example the *Journal of the Electrodepositors Technical Society*. Another source is the bulletins issued by companies selling surfactants. These are usually very complete and offer varied information on application, product specification, and often special tests for evaluation and analytical references. The three principal German journals cited are *Fette und Seifen*, *Seifen-Oele-Fette-Wachse* and *Melliand Textilberichte*. Dr. Price mentioned also several Japanese journals in which detergent articles have appeared.

In this respect, the writer offers a word of caution: articles appearing in foreign journals should be checked against developments in the same field in other countries. Some years ago the writer had occasion to study the hydrogenation process at some length. The papers from Japan at that time very clearly indicated that they were just about twenty years behind America in their technical development of this process. Japanese papers appearing in 1935, for example, were almost identical in scope and treatment to those American papers appearing in 1915. This point is not made to discourage the survey of foreign journals but merely to point out that an evaluation should be made after a brief study of them so that the energy involved in a search can be directed to the best sources of information. A very fine bibliography concludes Dr. Price's paper.

A third contribution to the symposium was a paper by Dr. Daniel H. Terry, director of research for Bon Ami Co., New York, on "Industrial Advertising on Soap

# CaPeM SCREW CAPPERS

Speed production for Texize Chemicals, Inc.



**CONSOLIDATED PACKAGING MACHINERY CORP.**

1400 WEST AVENUE, BUFFALO 13, NEW YORK

This Model D-6-F Rotary CaPeM increased production to such an extent that Texize Chemicals, Inc., Greenville, S. C. recently ordered a duplicate. This completely automatic line is operated continuously at production rates in excess of 200 bottles per minute.

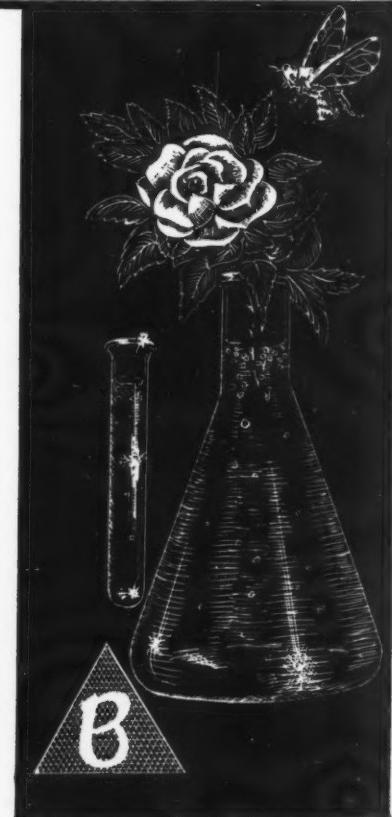
CaPeM Screw Cappers apply all types of metal and plastic screw caps to jars, bottles, cans and jugs ranging in size from 1 oz. to gallons. Speeds range from 40 to 300 containers per minute. Write for complete information.

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Uniform  
Stability  
Hold fragrance

**W. J. BUSH & CO., Inc.**  
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SOAP and CHEMICAL SPECIALTIES

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and Detergents as a Source of Information." It is very informative as an abstract classification of the objectives and types of advertising.

Actually, advertising in the chemical field is extremely educational. A busy executive can leaf through a trade journal and in a few minutes extract a host of ideas pertinent to his own business. In this respect, the reader should not be too narrow in his reading. Non-detergent chemicals or processes often can be more important than the orthodox. For example, a company advertising a tribasic acid may give the researcher a clue on a new product development. Perhaps the point holding up the program was knowing a good commercial source. Chemical advertising, in general, is dependable, as the issues at stake are usually well defined and straightforward. The materials changing hands are intermediates and, as everyone knows, will be tested thoroughly anyway before use.

Dr. Terry in his paper gave 10 classified illustrations of typical advertising in the detergent field and concluded with a bibliography of 35 business magazines in which such advertising plays a prominent part.

W. P. Bell, manager of the patent department of Procter & Gamble Co., Cincinnati, spoke on "Patent Searches in the Field of Detergents." His paper systematically treated the subject in three ways. First, patents were discussed as legal documents. Secondly, they were treated as a source of general technical information. Thirdly, the paper dealt with the search itself and the methods of the search as determined from the point of view taken from parts 1 and 2. For example, the search may be undertaken to determine whether an unexpired patent exists which would interfere with the practice of manufacture or sale of a product. This type of search is called an infringement search and requires expert legal training "because the search is directed not to patents which disclose the contemplated process or

product, but to patents which claim it." Then there is the validity search, the all-out validity search when legal action is involved, the novelty search and the search for a patented product available for commercialization.

The search for ideas or the search as it applies to patents forming a part of the general literature where no legal problems are involved may take a number of forms depending on whether the searcher is just looking for process background, ideas on which to base a new process, etc. Mr. Bell concluded his paper with a summary outline which was distributed separately just prior to the discussion. This added greatly to the effectiveness of the paper. Incidentally, copies of all the papers at this symposium except one were distributed by monitors at the conclusion of each presentation.

The fifth paper, "Recent Patent Litigation in the Detergent Field," was by Trenton Meredith of the patent department of Colgate-Palmolive Co., Jersey City, N.J. Both Mr. Meredith's paper and the final one of the symposium, "Detergent Analysis with IBM Punched Cards" by L. E. Kuentzel of Wyandotte Chemicals Corp., Wyandotte, Mich., will be covered fully in the June column.

WORK is now well advanced on the third revision of "Synthetic Detergents Up-to-Date." The third edition, like the two previous ones, will be published in *Soap & Chemical Specialties*. The first installment of the newest edition will appear in this publication within the next two months. Reprints in booklet form will be available shortly after the final installment appears in this publication sometime this summer.

#### New Becco Bulletin

"The Action of Silver-Catalyzed Persulfate on 1,2-Glycols" by Frank P. Greenspan and Henry M. Woodburn has been reprinted and published as bulletin No. 63 by Becco Chemical Division, Food Ma-

chinery and Chemical Corp., Buffalo 7, N.Y. Glycol cleavage products, aldehydes, ketones, or both can be obtained in yields ranging from 40 to 100 percent depending on the specific glycol used, according to the paper. Copies of the bulletin are available from Becco.

#### German Soap Annual

*Soap Industry Calendar* (Seifen Industrie Kalendar) 1955 edition, edited by Hans Heller, Delius, Klasing & Co., Berlin W 35, Germany, 296 pages, stiff paper cover, six and one half inches by four and three eights inches, price DM 7.60. New features in this useful annual include an economic survey by the editor entitled: "Oils, Fats and Soaps at the End of 1954"; an article on "Packaging of Soaps and Soap Raw Materials" by F. Wittka; "Purification of Technical Glycerine Solutions" by Ernest Schlenker; and a study of causes of visual and olfactory changes in soap during storage by Karl Bergwein. Trade marks are the subject of a newly introduced feature and a table of viscosities of oils and fats has been added in compliance with readers' requests. Tables and lists have been revised and expanded.

#### Dry Filling Equipment

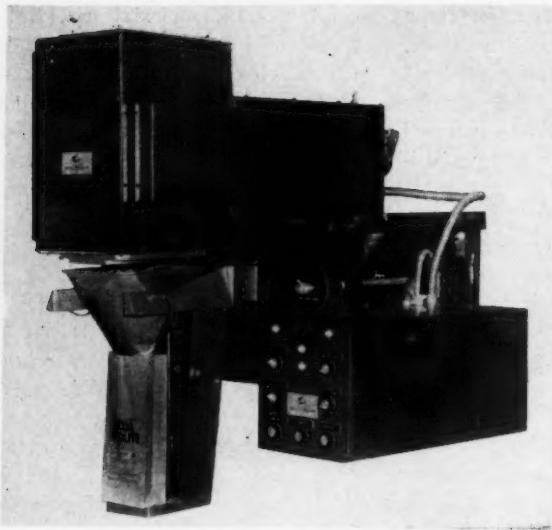
(From Page 109)

matically assure flow of material when handling materials that have a tendency to bridge at times.

Toledo Scale Co., Toledo, O., manufactures a complete line of scales for practically all purposes. Floor scales, platform scales, table scales, motor truck scales, mail and parcel post scales and others are available. Illustrated is the "Speedweight 3011" for small package filling and checkweighing of powdered and granular products. Other models are 3021 (capacity of 20 pounds) and 3031 (capacity of 50 pounds.) Other models are available up to 500 lbs.

The scale is available either in gray or white and can be had in a polished aluminum finish. The indicator has a scale reading of one inch to the ounce for easier reading. Model 3011 is portable for use anywhere, without leveling, under normal conditions.

A one pound graduated beam is used to tare off the weight of the container being filled; the beam is stainless steel, notched, and is provided with an automatic lock poise. Scoops and platters are available.



**Triangle Package Machinery Co., 6643 W. Diversey Ave., Chicago,** manufactures a line of dry filling equipment. Illustrated is the model SH-SA semi-automatic weigher and sealer. This machine will produce 20 to 25 weighed, filled and sealed cartons per minute. One operator squares up and seals the bottom of the carton. It is then placed on a conveyor where it moves to a filling station where it is automatically filled. The automatic filler is equipped with a shaker to settle material into the container. It will weigh material from four ounces to five pounds. After filling, the carton resumes along the conveyor to a second operator who seals the top and prepares it for travel through the compression drier.

**Weigh Right Automatic Scale Co., Joliet, Ill.** manufactures a line of dry filling equipment, including special automatic machinery, gross weight filling, volumetric equipment, auger inserters, carton sealers, fillers,

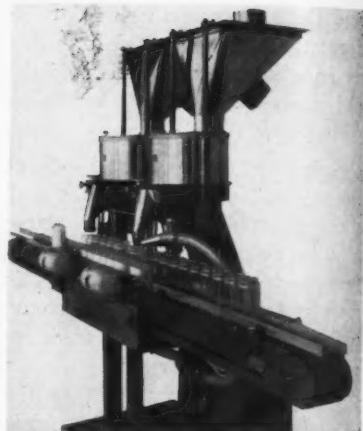
Below: "Speedweight 3011" scale for package filling and checking of powdered and granular products. Made by Toledo Scale Co., Toledo, O.



Semi-automatic weigher and sealer, below, is made by Triangle Package Machinery Co., Chicago.

←

New gross weight scale of Thayer Scale and Engineering Corp., Rockland, Mass., for handling extremely free-flowing or flooding powders and for filling directly into bags, cans or drums.

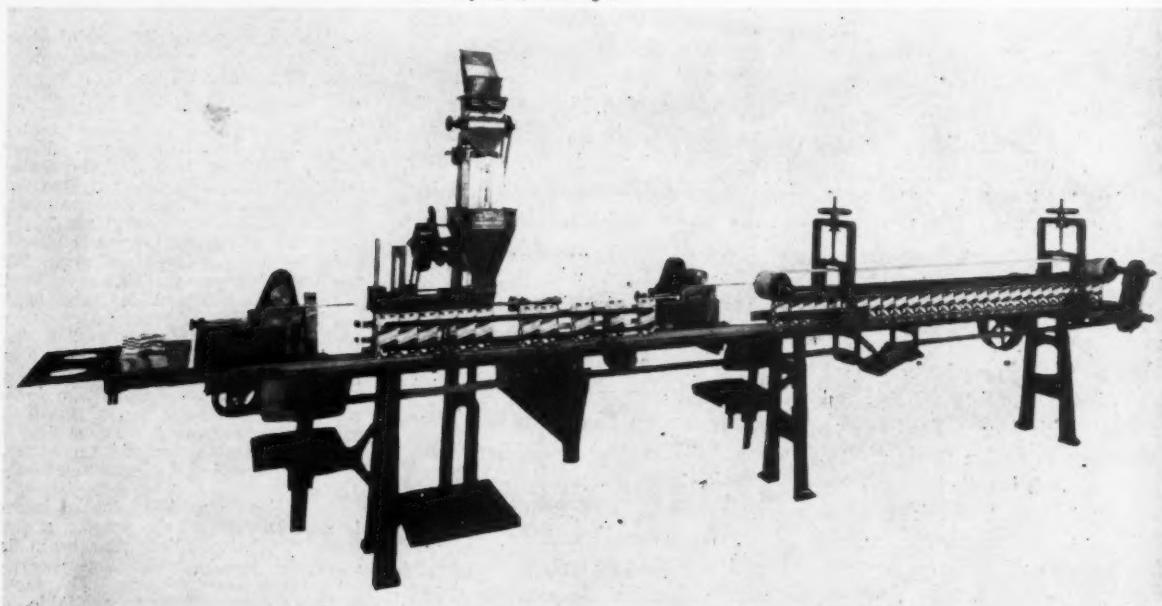


Two Model A "Pak King" filling stations, above, in tandem arrangement to increase speeds. Made by Weigh Right Automatic Scale Co., Joliet, Ill.

net weighers, conveyors and elevators.

The Weigh Right line of machines will fill a diversity of products ranging from a weight of milligrams to 25 pounds of dry material in all types of containers, filling up to 150 or more per minute. Machines are designed for gravity, power or vibrator feed, in both semi-automatic and automatic types.

Illustrated are two Model A "Pak King" filling stations in a tandem arrangement for increased output speeds variable from 60 to 120 per minute. Each station can be operated separately with a volume range from  $\frac{1}{8}$  ounce to approximately eight ounces. One pound filling of heavy dense powders in a single fill or eight ounces of light, bulky powder in a single fill at each station is possible. The machine can be operated to fill up to 99 percent at the first station and the balance at the second station plus agitation at each station and settling between fillers.



# Chemical Specialties

## *Proceedings . . .*

**P**rinted proceedings covering the forty-first annual meeting of the Chemical Specialties Manufacturers Association, held December 6-8, 1954 at New York, are now available for general sale to non-members of the Association. These published proceedings include all reports, papers and discussions at general sessions and divisional meetings. Also lists officers, board of governors, committee members and general association membership.

Proceedings are in a paper-covered volume with flexible plastic binding, 8½ x 11. Sent postpaid at \$7.50 per copy in the U. S.; \$8.00 elsewhere. Checks should accompany orders. Also some copies of proceedings of prior CSMA meetings are available at the same price. Send orders or request for further information to

H. W. HAMILTON, *Secretary*



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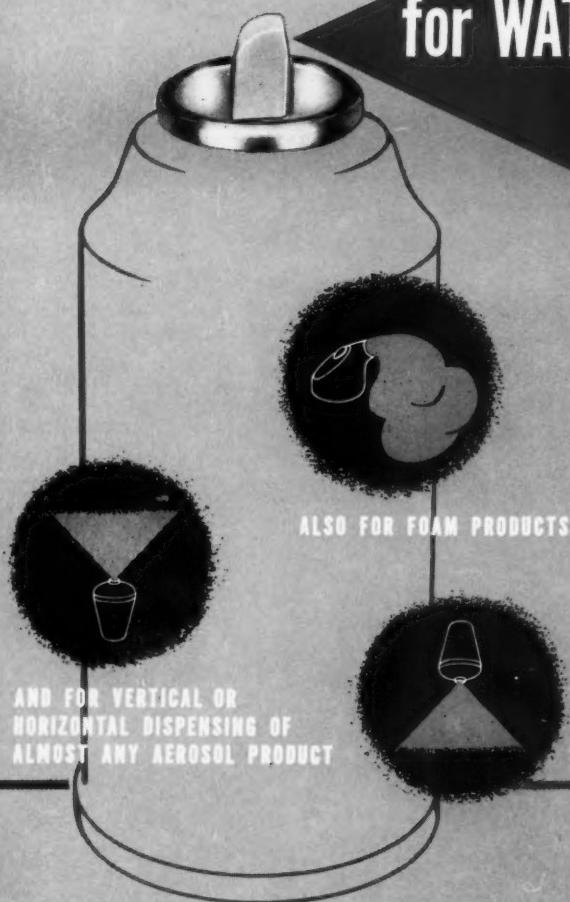
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New Key  
to Spray-Packaging

### for WATER-BASE PRODUCTS†

More Product—Lower Cost

†Applicable to bottles as well as cans for  
3-phase Aerosols such as Window  
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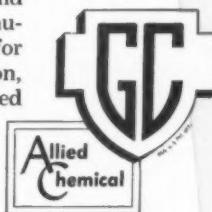
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...the right propellents  
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America wants the push-button convenience of pressure-propelled products . . . the amazing sales of aerosols prove that! Now, with General Chemical's expanded line of GENETRON aerosol propellents, an even greater variety of products can profit from this growing demand. Check the list of GENETRON propellents at right for your specific formulation requirements. You'll find a GENETRON propellant for every purpose!

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General Chemical's Technical Service Department can help you get started in aerosol packaging, or give the technical assistance needed in developing new types of pressure-packed products. It is completely equipped with experimental aerosol filling and testing apparatus; has accumulated data on formulation compatibility, vapor pressures, densities, for a wide range of products, etc. For full information, write the nearest General Chemical office listed below.



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These GENETRON Propellents bring  
new versatility to aerosol  
packaging:

**genetron 12:** Dichlorodifluoromethane; the first widely used aerosol propellant, is ideally suited for formulations requiring high vapor pressure, low boiling point, such as insecticides, paints and lacquers.

**genetron 11:** Trichloromonofluoromethane; finds its greatest use in combination with GENETRON 12 in a majority of low pressure formulations, such as hair lacquers, air refreshers, Christmas snow, space and residual insecticides.

**genetron 320:** Dichlorotetrafluoroethane; used in combination with GENETRON 12 in shave lathers and other foam products; makes possible a whole new range of drug and cosmetic aerosol products.

**genetron 101:** Monochlorodifluoroethane; has high vapor volume and odor stability characteristics that particularly suit it for use in the perfume industry—less propellant goes a longer way.

**genetron 226:** Trichlorotrifluoroethane; is for use principally as a blend with other GENETRONS in specialized formulations (powders, certain foam products).

**genetron 141:** Monochlorodifluoromethane; is excellent as a blending agent because of its unique solvent properties and relatively high vapor pressures.

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NON-TOXIC—STABLE, CHEMICALLY INERT—  
EXCELLENT COMPATIBILITIES—OPTIMUM VAPOR  
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**Developed by the world's largest group of wax scientists  
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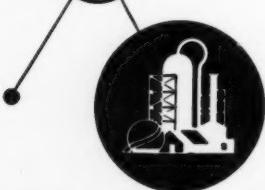
**THE ONLY VEGETABLE WAX** completely free of adulteration. Positive laboratory-controlled uniformity.

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SCUFF- AND SOIL-RESISTANT FILMS  
HIGHEST GLOSS  
MAXIMUM DURABILITY  
at lower raw-material costs  
with simplified formulae

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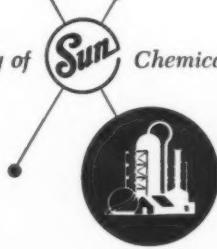
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the only emulsifiable  
petroleum wax with  
**PENETRATION ONE-TWO**  
(melting point 195°-200°F)

- CARDIS ONE is the hardest emulsifiable petroleum wax on the market.
- CARDIS ONE with a combination of Cane Wax 700 and Warco 180 White gives the luster and lasting brilliance only wax-rich emulsions can create.
- CARDIS ONE is produced at the Warwick Wax Refinery, Chanute, Kansas . . . home of Cardis Waxes, America's most widely-used emulsifiable petroleum waxes.

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**CLAYTON'S NEW HIGH-STYLED VALVE** combines all the dependable Clayton features to package your product in a pressure container of delicacy and charm. An unlimited variety of colors, shapes and sizes add unbelievable beauty to practical Pressurized Packaging . . .

**ALL CLAYTON VALVES** incorporate the simple, non-clogging, trouble-free design already used on more than over 100 million containers!

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**ALL CLAYTON VALVES** fit various sizes of pressure-type containers with standard 1" diameter openings. (*Also available for #202 and #211 pressure-type cylindrical containers.*)

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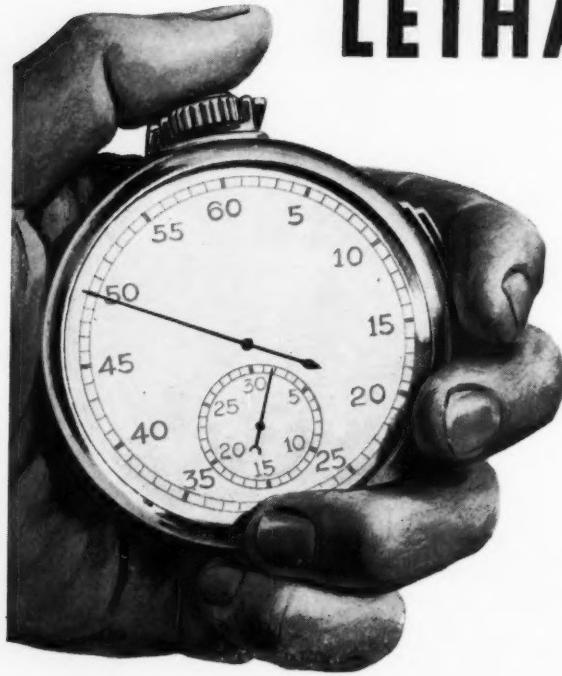
More and more Clayton Valves are being adopted by nationally known shaving cream manufacturers, who depend on the design proved again and again by actual test on substantially over 100,000,000 containers.

All Clayton Valve components are fastened securely, no parts to be accidentally loosened or unfastened during travel or product use.

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Clock them  
as they drop...  
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**LETHANE**



By laboratory tests your sprays or aerosols may meet the official minimum requirements. But, will your customers be satisfied with a product with slow initial knockdown? The average consumer knows little about Peet-Grady tests . . . O.T.I. standards . . . knockdown agents . . . synergists. He buys *your* product, uses it, and looks for quick knockdown; he expects insects to drop as if hit by lightning.

Formulate your product with LETHANE and your customers will get their money's worth. LETHANE is a knockdown agent that brings insects down fast—during those crucial first two minutes when the customer wants results. You get fast, high knockdowns with low, economical concentrations of LETHANE. With suggested percentages of LETHANE, savings of up to 3c per unit are possible.

*LETHANE* is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries.

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...if you have an aerosol project

...if you have an aerosol problem



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HELP YOU ... Tens of millions

of successfully selling aerosols are custom formulated and/or filled by G. Barr & Company for many of the nation's leading concerns.

These are testimonials of leadership ... earned through outstanding aerosol research laboratories ... creative product development ... meticulous quality control ... effective production economies.

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Whether you need help in developing a new aerosol idea or in filling a current product ... whether you need 1,000 units or a million per week, G. Barr & Company's three aerosol filling plants—New York, Chicago, Los Angeles, can take care of your requirements now. Three key locations to assure you of freight savings and on-schedule delivery.

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• Aerosol packaging in metal, plastic, and glass containers.

• Aerosols as sprays, foams, powders.

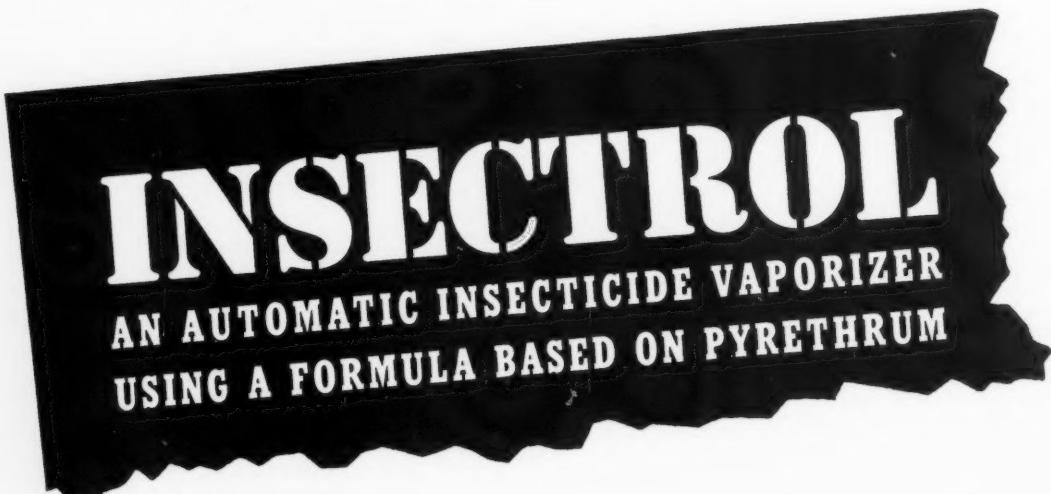
• Aerosol cosmetics, insecticides, pharmaceuticals, waxes, cleaners, polishes, household products ... your new product idea.

Address inquiries to: 3601 S. Racine Avenue, Chicago 9, Illinois

## G. BARR & COMPANY

Plants in: New York • Chicago • Los Angeles

After years of research, the technicians and producers of  
DE FLYER, Automatic Lindane Vaporizer, *Announce...*



- NOT using DDT, Lindane or Other Chlorinated Hydrocarbons
- LOW COST... Maximum Discount... Your Guarantee of Big Volume and Big Profits
- INSECTROL VAPORIZER and Chemical Formula Patented for Your Protection!
- Most Automatic Vaporizers now in use can be made adaptable for use with Insectrol by our Technicians

## Franchises Available

KISSNER INDUSTRIES, Inc.  
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# *Gersthofen Waxes*

former I. G. Waxes

## KPS For High Grade Self Polishing Waxes

Also the well-known types for

Paste Waxes

Auto Polishes

Furniture Polishes

Shoe Polishes

Low Prices

High Uniform Quality

No adulterations

Technical Service At Your Request

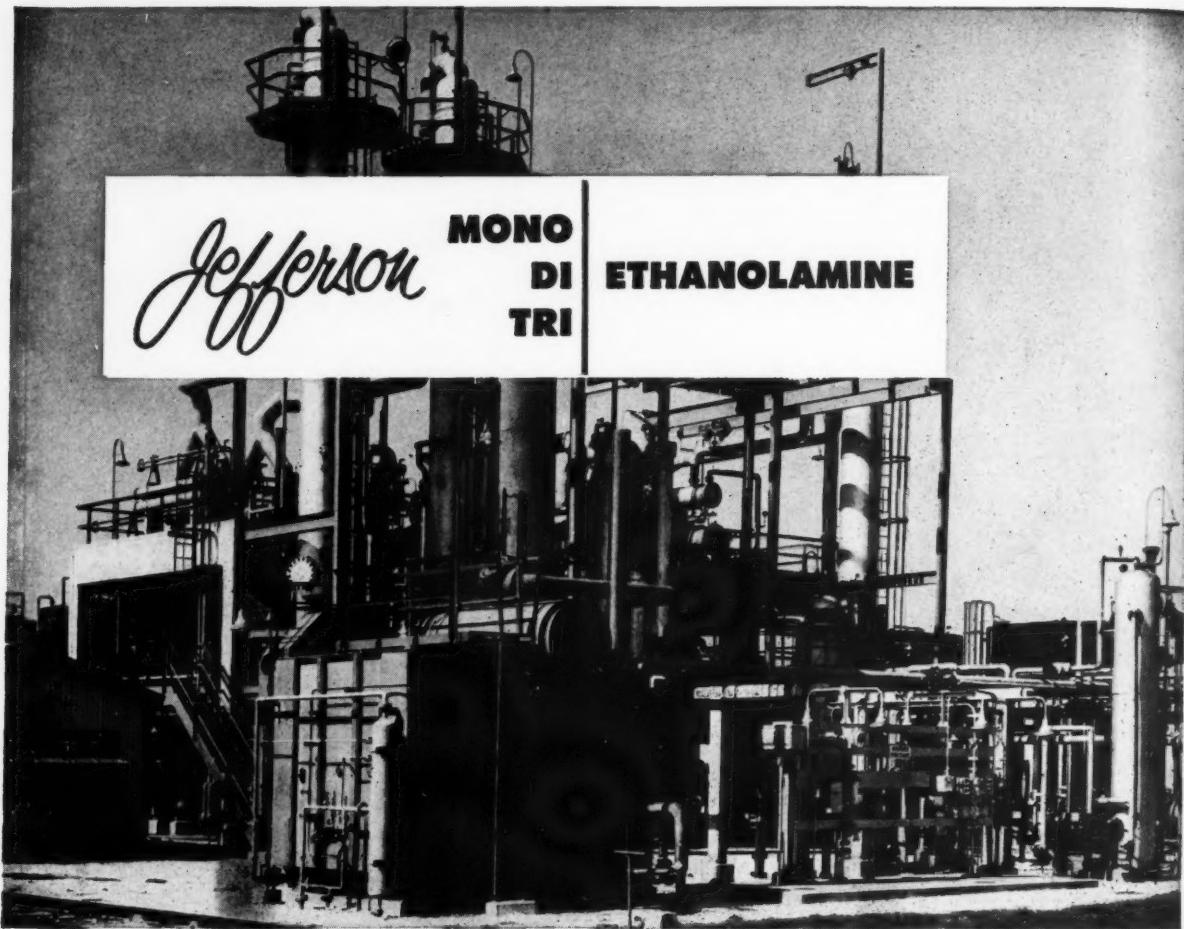
## WAX & ROSIN PRODUCTS

42 Broadway New York 4, N.Y.

Sole agents and distributors

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**When your product depends on quality, rely on ...**



Jefferson Ethanolamines are made by and for chemical specialists to help improve your products and processes. They offer the performance-minded chemical manufacturer superior results in a wide variety of industrial applications that include:

- Gas treating—H<sub>2</sub>S and CO<sub>2</sub> removal
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- Textile intermediates and softeners
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- and many other quality-demanding uses

Available in tank cars, tank wagons, 55-gallon drums, or in samples for your investigation. Our technical service staff will gladly assist you in your Ethanolamine applications.

Specialists in *essential chemicals from hydrocarbon sources*

**Jefferson**  
CHEMICAL COMPANY, INC.  
260 MADISON AVENUE, NEW YORK 16, N.Y.

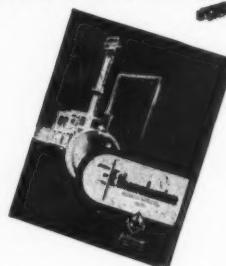
Branch Sales Offices: Chicago, Houston, Charlotte  
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Meanwhile... Send for your copy of our  
NEW 40-page Technical Bulletin on  
Ethanolamines. It contains the latest information  
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Ethylen Oxide,  
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Ethanolamines  
Nonyl Phenol  
Morpholine  
Ethylene Carbonate  
Propylene Carbonate  
Polyethylene Glycols



with Emulsol's Emulsifier **EMCOL HC-2** in your

### Acid Toilet Bowl Cleaner Formulation

There's no marketing problem when your sanitary stain remover is

- stable on the shelf
- effective in the field
- economical to use
- low in formulating cost

EMCOL HC-2 is another example of Emulsol's advanced research approach. It was developed to produce stable emulsions of hydrochloric acid with o-dichlorobenzene in water.

Ask your local Emulsol technical representative for samples and particulars. Prove it to yourself. Of course, there's no obligation.

**EMULSOL CHEMICAL CORPORATION**

59 EAST MADISON STREET • CHICAGO 3, ILLINOIS, U.S.A.

As advertised in **CHEMICAL WEEK**



**Bowling 'em over**

Acid Bowl Cleaner Emulsions are stable when formulated with EMCOL HC-2. Janitors and sanitarians don't have to shake the bottle and spill acid, don't have to pay lots for this terrific product. It took us a little longer, but we got the answer to this one.

**2 in 1  
punch\***



\*  
for the quick  
**knock-down**  
and positive  
**stay-down**  
results.....

**specify**

**GEIGY METHOXYCHLOR**

**for your aerosol and spray formulations**

Methoxychlor is a safe, economical, chemical relative of DDT. Its low toxicity to man and animals, combined with its long residual toxicity to insects makes it an ideal insecticide for use in aerosol formulations. GEIGY METHOXYCHLOR is compatible with pyrethrins, allethrin, and piperonyl butoxide.

#### **GEIGY METHOXYCHLOR "20"**

Designed for use in the preparation of household sprays, dairy barn sprays, aerosols, and other products where small amounts of methoxychlor are desired in the finished products.

#### **GEIGY METHOXYCHLOR "90"**

A concentrated methoxychlor product for use in the formulation of methoxychlor sprays and aerosol solutions.

ORIGINATORS OF



DDT INSECTICIDES

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*Division of Geigy Chemical Corporation*

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from the Laboratory of Aerosol Research  
comes the great new

# K-38 AEROSOL VALVE



Pressure-fills faster than any other valve

*on the market!*

THE K-38 AEROSOL VALVE is literally two valves in one. A new engineering principle, discovered in our laboratory allows quicker intake and more uniform dispensing. Available with smartly designed metal or plastic protective cover.

Aerosol Research Co.—pioneers in the manufacturing of aerosol valves and originator of the two-piece paint valve—is constantly working to bring better valves to the aerosol field. A complete staff of qualified research personnel is ready to help you solve your aerosol problems. We invite your inquiry. Samples and prices sent on request.

*Aerosol Research Company*

743 CIRCLE AVENUE, FOREST PARK, ILLINOIS

# Federal C.P.R. FINISH

## Clear Pale Wear Resistant

- ▶ CLEAR - PALE
- ▶ STAYS LIGHT
- ▶ RETAINS COLOR
- ▶ NON-SLIPPERY
- ▶ RUBBER-BURN RESISTANT
- ▶ EXCEEDINGLY TOUGH
- ▶ NOT AFFECTED BY SOAP

This fast, hard drying finish is ideal for Gymnasiums, Hand Ball and Squash Courts. Its light color is not adversely affected by sunlight. Its gloss will not be impaired by regular cleaning methods.

Approximate Coverage — 600-750 square feet per gallon.

A C.P.R. Finish is outstanding for other finishing purposes in addition to gym floors. It has so many plus features it has found great favor in schools, institutions, manufacturing plants, offices, public buildings, etc.—wherever a plus quality, pale, tough, super scrubbable finish is desired. C.P.R. has a wide market. Send to Dept. C for further details.



# Federal VARNISH DIVISION

2841 SO. ASHLAND AVE. • CHICAGO 8, ILL.



**2,4,6-TRIMETHYLPHENOL**  
97.5% minimum purity. Water  
0.4% maximum.



**CRESOLS, MIXED**  
Grade 3: Water-Free distill 3-4 C. range  
Grade 4: Water-Free distill 38% above  
4.8 C.  
Grade 5: Distill 38% above 19.8 C.  
Grade 6: Distill 50% above 19.8 C. and  
93.5% below 20.0 C. Total  
distillation range more than 8.2 C.  
Grade 7: Distill 30% above 19.8 C. and  
98% above 20.0 C. Total distillation  
range more than 8.2 C.  
Grade 8: Distill 30% between  
20.84 C. and 98% above  
20.8 C.



**CRESOL, ORTHO**  
Grade 1: Freezing point 30 C. plus  
Grade 2: Freezing point 29-30 C.



**CRESOL, P.A.**  
Specific Gravity 1.25 C.  
1.030-1.038. Not less than 90%  
by volume distills between  
19.5-20.5 C.



**CRESYLIC ACIDS**  
Grade 1: Trace phosphorus grade.  
Grade 2: 30% distill 204-206 C.  
Grade 3: 30% distill 206-210 C.  
Grade 4: 30% distill 210 C. or higher,  
with initial distillation range  
over 1.8 C.  
Grade 5: 30% distill 210 C. or  
higher, with initial distillation  
range of 7.9 C.



**DENATURING GRADE PYRIDINE**  
See #70



**DIBENZOFURAN**  
See #27

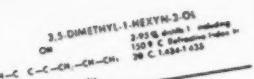


**3,6-DIAMINOPYRIDINE**  
98% minimum purity. Freezing  
point 119.2 C. minimum.



**DIMETHYLETHYNYL CARBONS**  
See #42

23

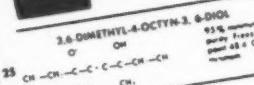


93% minimum purity  
150-160 C. Boiling point tr.  
20 C. 1.02-1.03

24



25

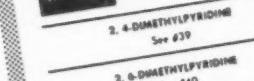


95% minimum  
purity freezing  
point 45 C. minimum.

26



27



28



29



30



**2-ETHYLPIRIDINE**  
95% minimum purity



**4-ETHYLPIRIDINE**  
95% minimum purity



**2-ETHYL BUTANOL-3**  
95% distill 1 range, including  
122.2 C. Boiling point tr.  
20 C. 1.02



**3-ETHYL PROPOANOL-3**  
See #42



**FLUORANTHENE**  
95% minimum purity. Freezing  
point 107.0 C. minimum.



**FLUORENE**  
80-85% purity.



**HIGH COEFFICIENT ACID**  
Minimum phenol coefficient as  
specified by customer.



**ISONicotinic ACID**  
98% minimum purity by titration



**ISONicotinic ACID, METHYL ESTER**  
See #43



**ISOURIDINE**  
Grade 1: 95% minimum purity. Freezing  
point 227 C. minimum.



Grade 2: 85% minimum purity. Freezing  
point 18.5 C. minimum.



**2,4-LUTIDINE**  
95% minimum purity



**2,6-LUTIDINE**  
95% minimum purity. 2 range, including  
163.7 C. Freezing point  
-6.6 C. minimum.



**2,6-LUTIDINE-N-OXIDE**  
95% minimum purity.



**2-METHYL-3-BUTYN-2-OL**  
95% distill 1 range, including  
104.2 C. Boiling point tr.  
20 C. 1.02



**METHYLISOBUTYLETHYNYL CARBONYL**  
See #23



**METHYL ISOBUTYLETHYNYL CARBONYL**  
See #23



**METHYL ISOBUTYLETHYNYL CARBONYL**  
See #23



**METHYL ISOBUTYLETHYNYL CARBONYL**  
See #23



**METHYL ISOBUTYLETHYNYL CARBONYL**  
See #23



**METHYL ISOBUTYLETHYNYL CARBONYL**  
See #23



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**METHYL ISOBUTYLETHYNYL CARBONYL**  
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**METHYL ISOBUTYLETHYNYL CARBONYL**  
See #23



## the **2<sup>nd</sup>** edition of the **Reilly** Chemical Index IS **HOT OFF THE PRESS!**

This new Second Edition contains

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- a complete list of Reilly's 15 plants and 19 sales offices.

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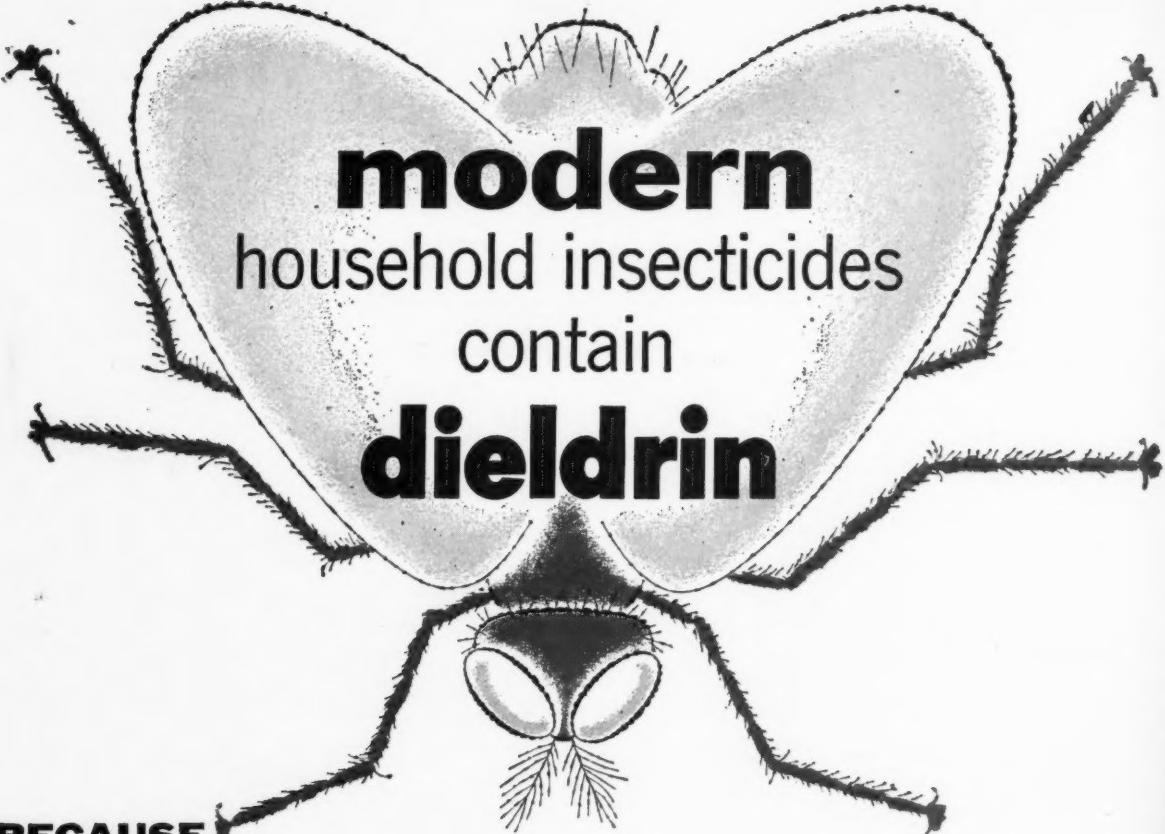
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MERCHANTS BANK BUILDING • INDIANAPOLIS 4, INDIANA

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**Heterochemicals • Coal Tar Chemicals • Acetylene Derivatives**





# **modern** household insecticides contain **dieldrin**

**BECAUSE**

**dieldrin is fast acting, long lasting,  
economical, safe to use**

**and it kills**



flies



mosquitoes



silverfish



cockroaches



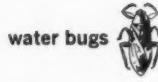
fleas



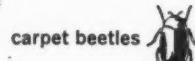
wasps



ticks



water bugs



carpet beetles



ants

Used in household dusts and sprays, dieldrin is the most broadly effective insecticide known today. Dieldrin is particularly notable for its long residual action, both indoors and out.

What is more, dieldrin is potent in small dosages . . . which means lower cost per application to your customer.

Dieldrin has long been used with telling effectiveness in public health work and on farms the world over. It is a thoroughly established insecticide . . . one that deserves a permanent place in your own formulations.

Technical information on dieldrin and its application is available. Write to:

**SHELL CHEMICAL CORPORATION**

AGRICULTURAL CHEMICALS DIVISION • P. O. Box 1617, Denver 1, Colorado

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SOAP and CHEMICAL SPECIALTIES



**As beautiful as wrapping  
your floor in cellophane!**

# LAB-COTE

**CLEAR, HARD, DURABLE,  
RESILIENT FLOOR DRESSING**

*High Gloss Safety for every Surface!*

*It's Buffable! Removable!*

Approved by York Research Corporation for  
acceptance by the American Hotel Association



Here is clear, *natural* beauty for all floors! LAB-COTE is *not* a wax. It is a *transparent*, long-wearing, floor dressing . . . that protects as it beautifies. LAB-COTE dresses floors with pure, lasting beauty—like a cellophane wrap!

**KEEPS FLOOR UPKEEP DOWN!**

This Cost Control Chemical\* for beautiful floorkeeping is easy to apply—easy to maintain. Soil stays on top . . . wipes off with a damp mop. Even traffic lanes shine after light buffing. Although rugged and hard, LAB-COTE is easy to remove when desired.

**SAFER TO WALK UPON!**

LAB-COTE gives 40% higher anti-slip value than minimum standards—with beauty, durability . . . easy maintenance.



**Chemical Service of Baltimore, Inc.**  
**HOWARD & WEST STREETS ★ BALTIMORE 30, MARYLAND**

# SOME CLOUDS BRING trouble!

A multitude of products are sold today in the modern aerosol container. The efficiency, practicability, and appeal of this remarkable package have again and again been proven.

But with the free dispersion of product into the aerosol cloud, a formerly unnoticed objectionable odor is magnified many-fold, often into a real disadvantage. Cosmetics, paints, insecticides, waxes, can be effectively improved odor-wise for aerosol packaging.

The chemists of van Ameringen-Haebler, Inc. have had long and successful experience in the improvement of many products. They can help you turn scent into a real selling force.

**Ameringen - Haebler, Inc.**

45 EAST 55TH STREET NEW YORK 5, N.Y.

**GIVE  
YOUR  
INDUSTRIAL  
CLEANERS**

- **strong-acid efficiency**
- **low corrosive action**

**with Du Pont  
SULFAMIC ACID**

## Broaden Your Market In

- ... Dairy Milk-Stone Cleaners
- ... Cleaning Paper-Mill Felts and Wires
- ... Descaling Sugar Evaporators
- ... Descaling Air-Conditioning Coils
- ... Brewery Cleaners
- ... Heat Exchange and Boilers
- ... Metal Cleaners and Brighteners

Here's a wonderful opportunity to increase your industrial cleaner sales! With Du Pont Sulfamic Acid you can now formulate cleaners that combine powerful cleansing action with unusual safety and economy. Now your customers can remove scale from heat transfer and general processing equipment faster than ever before!

This remarkable combination of speed and safety is possible because Sulfamic Acid is strong—but far less corrosive than acids of similar strength. It reduces cleaning time, minimizes handling hazards, and cuts storage and packaging problems because it's an odorless, non-volatile and crystalline solid.

Find out how this versatile granular acid can help build *your* sales. Fill in the coupon below and mail it to Du Pont.

### DU PONT SULFAMIC ACID



Better Things for Better Living...through Chemistry

E. I. du Pont de Nemours & Co. (Inc.)  
Grasselli Chemicals Department, Room N-2539  
Wilmington 98, Delaware

Please send me your bulletin on Sulfamic Acid and information on its applications in industrial cleaning.

Name \_\_\_\_\_ Position \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

Please note—  
the information  
contained on this  
page will be of no  
particular interest  
to anyone except  
manufacturers of  
**LIQUID FLOOR WAXES!**

Four years ago the Bareco Oil Company started manufacturing its first emulsifiable wax. This was the Petronauba "C" grade which brought to the liquid floor polish industry increased stability and uniformity plus much lighter color. Petronauba "C" was enthusiastically received by manufacturers who were starting to rely more and more on emulsifiable petroleum waxes to replace or extend the more expensive and less plentiful natural wax products. Recently Bareco, through new discoveries in emulsifiable wax research, has started marketing Petronauba "D", and the outstanding reports from laboratories all over the country once again confirm the wisdom of Bareco's EXCLUSIVE dedication to the research and manufacture of petroleum waxes.

# PETRONAUBA

## PETRONAUBA "D"

|                            |          |
|----------------------------|----------|
| Melting Point.....         | 185 Min. |
| Penetration .....          | 5 Max.   |
| Color .....                | Amber    |
| Acid Number.....           | 20/28    |
| Saponification Number..... | 50/60    |
| Viscosity .....            | 175 Max. |

## PETRONAUBA "C"

|                            |          |
|----------------------------|----------|
| Melting Point.....         | 180 Min. |
| Penetration .....          | 7 Max.   |
| Color .....                | 3 Max.   |
| Acid Number.....           | 22/28    |
| Saponification Number..... | 50/60    |
| Viscosity .....            | 130 Max. |

As compared with other oxidized waxes now on the market, Petronauba "C" has a distinct color advantage of 2½-NPA. The next closest being Bareco's own Petronauba "D". Users have reported greater stability in emulsion form as compared with competitive brands. Petronauba "C" is packed in cartons, each carton containing four 20-lb. slabs. Also available in palletized cartons, in truck load and/or carload quantities only. Samples are available for testing in your own laboratory.

Through a new refining process Bareco Petronauba "D" offers outstanding penetration to temperature relationships. In the process the soft, tacky fractions of the wax are removed. The result is a hard film which greatly increases the life span of the application. Petronauba "D" contains no additives of any kind and can be easily handled in liquid form due to its low viscosity. This amazingly low penetration emulsifiable petroleum wax is receiving widespread recognition and publicity because of its ability to resist dirt pick-up and black marking in emulsion floor finishes. Cartons contain 20-lb. slabs. Palletized cartons contain 8-20-lb. slabs. Samples for testing available at your request.



# BARECO OIL COMPANY

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FOR**

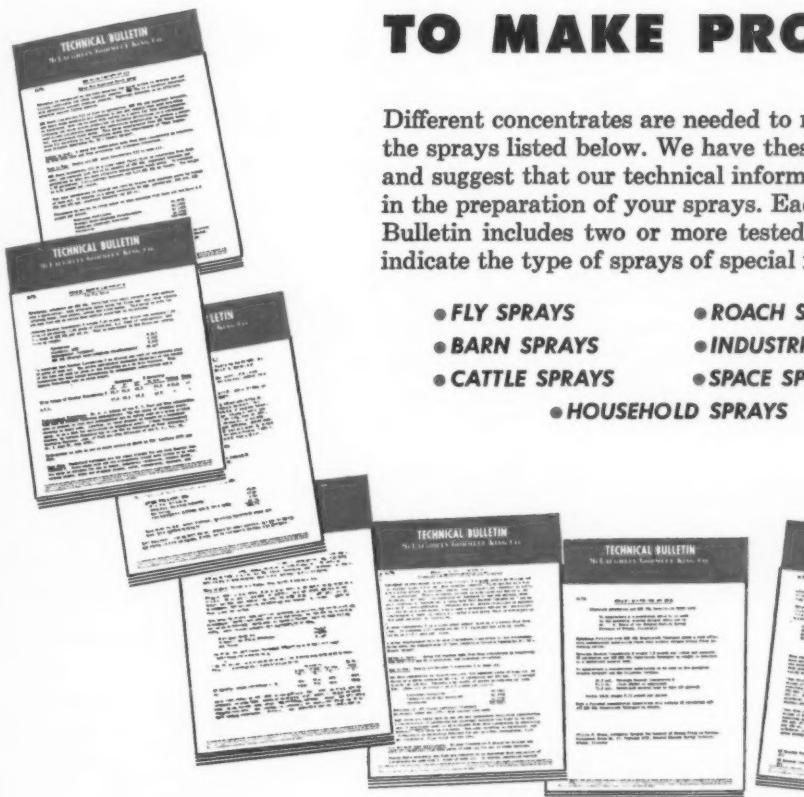


# *Sprays and Ways*

## **TO MAKE PROFITS**

Different concentrates are needed to manufacture each of the sprays listed below. We have these concentrates available, and suggest that our technical information will be of value in the preparation of your sprays. Each Technical Bulletin includes two or more tested formulas. Please indicate the type of sprays of special interest to you.

- FLY SPRAYS
- ROACH SPRAYS
- BARN SPRAYS
- INDUSTRIAL SPRAYS
- CATTLE SPRAYS
- SPACE SPRAYS
- HOUSEHOLD SPRAYS



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Please send Technical Bulletins as checked.  
 Fly Sprays    Roach Sprays    Barn Sprays  
 Industrial Sprays    Household Sprays  
 Cattle Sprays    Space Sprays

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Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

# WE'VE EXPANDED...

TO FIT **YOUR\*** PRODUCT  
INTO OUR  
AEROSOL PACKAGING PICTURE



**INCREASED PLANT FACILITIES**—Our new 30,000 sq. ft. plant is centrally located for ideal distribution, with both rail and truck facilities. We offer warehousing, drop shipping in bulk lots, direct pick up and routing by major national truck lines. Outer Belt Line rail service connecting every railroad in the Chicago area. All these make for faster, more efficient, more economical receiving, handling, and delivery of your merchandise.

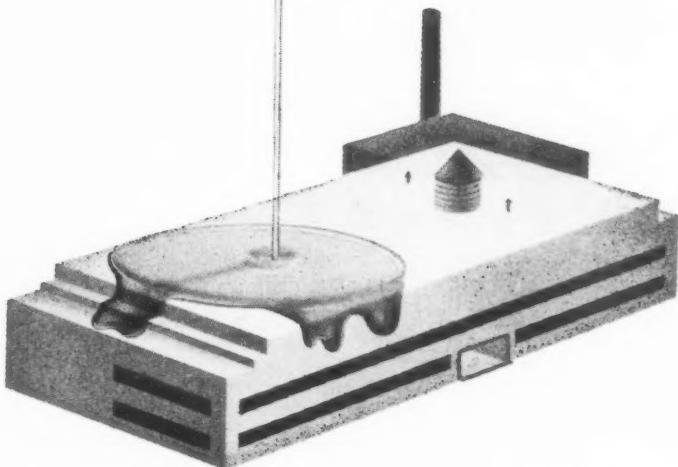
**PRODUCTION VERSATILITY**—Our facilities will handle oil and water base, liquid and foam products, of all types, *in small or large quantities*. No minimum run required and no maximum limit! *Rigid quality control* is maintained on all production regardless of the size of your run. All types of cans and valves are available to you from stocks kept on hand. Complete laboratory service lending itself to *dependable production* is a must for your aerosol or pressurized product needs and is also part of our complete service rendered by personnel trained in aerosol research. For information, consultation, or estimates, write or phone one of the country's first aerosol fillers — CHASE PRODUCTS COMPANY.

**CHASE PRODUCTS COMPANY • MAYWOOD, ILLINOIS**



If you use water  
in your process...

USE EMULSIFIABLE *A-C<sup>\*</sup>Polyethylene*



for the first time . . .

a polyethylene that is emulsifiable in water!

If water is your processing medium . . . if you use water in any stage of your operations . . . you should try emulsifiable A-C POLYETHYLENE.

With low-molecular-weight A-C POLYETHYLENE, you can prepare fine particle size, stable, clear emulsions which may be applied with any equipment now employing water systems.

Emulsifiable A-C POLYETHYLENE is now available in quantity for commercial trials. If you will write us on your business letterhead indicating your intended use, we will send you literature or such information as you may require.

**SEMET-SOLVAY PETROCHEMICAL DIVISION**

ALLIED CHEMICAL & DYE CORPORATION

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New York • Cleveland • Chicago



Look for us at  
CSMA CONVENTION  
May 16-17 in  
CHICAGO



\*Trade Mark



**get  
to  
know**

# **BTC 50%**

**— it should be working for you**

It's easy to get to know BTC 50%—the most thoroughly documented quaternary ammonium compound available on the market today. Every vital statistic, complete data, in other words, on toxicity, skin irritation and eye irritation, is readily available.

A product of Onyx pioneering in quaternaries, BTC 50% has an almost unlimited range of important applications wherever sanitizing or algae and fungi control is necessary for the protection of health, prevention of infection or increasing production.

BTC 50% is carefully controlled chemically as well as bacteriologically. It remains completely stable in storage even in use dilutions, has excellent wetting and penetrating action and performs with greater economy than ever before.

*Investigate BTC 50% today—it should be working for you now.*

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**CHICAGO • BOSTON • CHARLOTTE • ATLANTA**

**IF YOU FORMULATE FOR THE  
FOLLOWING OR SIMILAR  
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# Versatile PRETOX POWDERED CUBE RESINS

CONTAINING 30-45% ROTENONE

Designed for the manufacture of garden and household aerosols, household and industrial sprays and agricultural and cattle sprays.

PRETOX CUBE RESINS are POWDERED to insure rapid solubility and uniform analysis. This material is Rotenone in its most versatile form and is readily soluble in the usual aromatic petroleum products.

PRETOX CUBE RESINS are the accepted FISH TOXICANT. When applied as an emulsifiable concentrate they control undesirable fish in lakes and, when used at the rate of 1.36 lbs. of Rotenone per acre foot of water, will allow the game fish to be restocked in from one to six months.



Try these other PRETOX Pest-Tested Products:

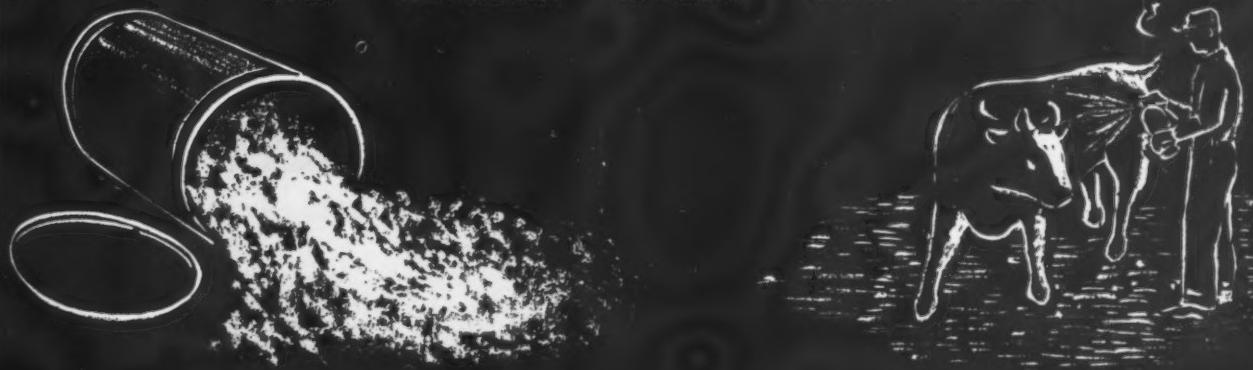
Chlordane Concentrates • DDT Concentrates • Heptachlor Concentrates  
Malathion Concentrates • Lindane Concentrates • Pyrethrum  
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**crickets**  
**earwigs**  
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**dry rot fungi**  
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and related beetles**

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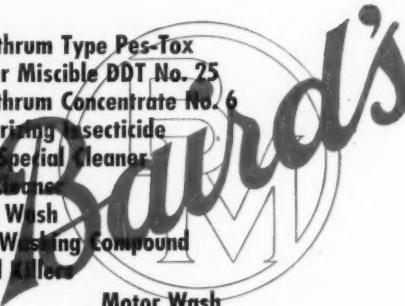
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# CSMA MEETING IN CHICAGO

THE results of three market surveys of three types of chemical specialties were awaited with considerable interest as the 41st midyear meeting of the Chemical Specialties Manufacturers Association got under way at the Hotel Drake, Chicago, May 16. The two day meeting, being held May 16 and 17, was preceded by a full day of meetings of the CSMA board of governors, as well as various technical and marketing committees and subcommittees. Judging by advance registrations and those of the first morning of the meeting, this year's midyear convention of CSMA may be the largest in its history. In addition to the Drake, housing requirements for the meeting called for the use of two near-by hotels: the Knickerbocker and the Seneca.

Besides the surveys of the aerosol, insecticide and brake fluid industries, panel discussions and individual papers, and films on products of the industry were scheduled for the meeting. These were to be presented at separate or joint simultaneous divisional meetings or the general session.

Group luncheons on both days of the meeting were to be addressed by W. H. Gove, vice-president, sales, E. M. C. Recordings

Melvin Fuld, President



## Large turnout expected for 41st midyear meeting at Drake Hotel, May 16 and 17

Corp., St. Paul, who was to speak at the Monday, May 16 luncheon on the subject of "You Make the Difference." The Tuesday, May 17, luncheon speaker is Robert T. Secrest of the Federal Trade Commission.

Association business and organization matters are to be discussed by the officers of the CSMA and its general counsel, John D. Conner. In addition, a nominating committee to pick a slate of officers and members of the board of governors for 1956 will be selected during the meeting. New divisional chairmen and vice-chairmen and members of the administrative committees of the six divisions of which CSMA is composed will be elected at the meeting to serve in 1956.

Besides the group luncheons on both days of the meeting, other social highlights include the open house parties the evening of May 16, and the banquet, reception and floor show scheduled for May 17.

Meetings of the Disinfectant and Sanitizers, Aerosol, Soaps, Detergents and Sanitary Chemical Products and Waxes and Floor Finishes Divisions open the meeting Monday morning May 16.

Peter C. Reilly, Treasurer



Meetings of the Insecticide and Automotive Divisions follow the luncheon the afternoon of May 16. Simultaneously, there will be a showing of moving pictures and slide films the afternoon of May 16. Included will be the first public showing of the new film produced by the Kinetic Chemicals Division of E. I. du Pont de Nemours & Co., Wilmington, Del. The film, dealing with aerosols, is entitled, "The Spray's the Thing—All about those New Handy Little Helpers." At this time, too, a film, "Goodbye Mr. Roach" of Velsicol Corp., Chicago, and another, on biting flies produced for the Canadian Department of Agriculture will be shown.

The general session on the morning of May 17 will hear reports of CSMA president Melvin Fuld of Fuld Brothers, Inc., Baltimore; treasurer Peter C. Reilly of Reilly Tar & Chemical Corp., Indianapolis, and secretary H. W. Hamilton. The report of John D. Conner, CSMA general counsel will be presented at the general session.

Following the group luncheon on Tuesday, May 17, divisional meetings resume. Scheduled to meet

(Turn to Page 253)

H. W. Hamilton, Secretary



# Program for 41st CSMA Midyear Meeting

## MONDAY MORNING, MAY 16, 1955 AEROSOL DIVISION—GRAND BALL ROOM

H. R. Shepherd, Presiding

9:00 A.M.

- A-1 ADDRESS OF THE DIVISION CHAIRMAN—H. R. Shepherd, Connecticut Chemical Research Corp., Bridgeport, Conn.
- A-2 REPORT OF NOMINATING COMMITTEE—Election of Administrative Committee for 1956.
- A-3 "PUSH BUTTON LIVING" (A Sound Slide Film)—Introductory Remarks by J. J. Tomlinson, General Chemical Div., Allied Chemical & Dye Corp., New York.
- A-4 PANEL DISCUSSION—"Postal Regulations and ICC Regulations Pertaining to Aerosols".
  - (a) INTRODUCTORY REMARKS—E. A. Riley, Post Office Dept., Washington, D. C.
  - (b) H. A. Campbell, Association of American Railroads, Bureau of Explosives, New York.
  - (c) SUMMARY OF SHIPPING REGULATIONS—R. H. Foltz, General Chemical Div., Allied Chemical & Dye Corp., New York.
  - (d) QUESTION AND ANSWER PERIOD
- A-5 "EFFICIENCY OF CHLORINATED SOLVENTS IN PAINT REMOVERS"—R. H. Ross, Solvay Process Div., Allied Chemical & Dye Corp., New York.
- A-6 "NON-FLAMMABLE PAINT STRIPPERS—Part 1—Relative Efficiencies of Chlorinated Solvents and Binary Solutions"—Bernard Berkeley, Daniel Schoenholz, John P. Sheehy, Foster D. Snell, Inc., New York.
- A-7 "THE SPRAY'S THE THING" (A motion picture)—Introductory remarks—T. D. Johnson, Jr., E. I. du Pont de Nemours & Co., Inc., Kinetic Chemicals Div., Wilmington, Delaware.
- A-8 REPORT ON THE ANNUAL AEROSOL PRODUCT SURVEY—Frederick G. Lodes, Precision Valve Corp., Yonkers, N. Y.

## DISINFECTANT AND SANITIZERS DIVISION— FRENCH ROOM

Russell G. Puhle, Presiding

9:00 A.M.

- D-1 ADDRESS OF THE DIVISION CHAIRMAN—Russell G. Puhle, Tykor Products Div., The Borden Co., Brooklyn, N. Y.
- D-2 REPORT OF THE NOMINATING COMMITTEE.
- D-3 ELECTION OF DIVISION ADMINISTRATIVE COMMITTEE FOR 1956.
- D-4 "THE QUARTERMASTER RESEARCH AND DEVELOPMENT PROGRAM FOR THE PREVENTION OF MICROBIOLOGICAL DEGRADATION OF PLASTIC FILMS"—Dr. Arthur M. Kaplan, QM Research and Development Center, Natick, Mass.
- D-5 "THE PRACTICAL DISINFECTING VALUE OF SOME ACIDS AND ALKALIES AS REVEALED BY THE A.O.A.C. USE-DILUTION TEST"—L. F. Ortenzio, J. L. Friedl, and L. S. Stuari, Pesticide Regulation Section, Plant Pest Control Branch, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C.
- D-6 "THE USE OF DISINFECTANTS TO CONTROL POLIOMYELITIS"—Dr. Kenneth Cochrane, School of Public Health, University of Michigan, Ann Arbor, Michigan.  
The Waxes and Floor Finishes Division will join this meeting for the following paper:
- D-7 "DISINFECTANT TEST METHODS"—Dr. Saul Kaye, Chief, Decontamination Branch, Camp Detrick, Frederick, Md.

## SOAP, DETERGENTS AND SANITARY CHEMICAL PRODUCTS DIVISION—WALTON ROOM

George E. Barker, Presiding

9:00 A.M.

- S-1 ADDRESS OF THE DIVISION CHAIRMAN—George E. Barker, Atlas Powder Co., New Castle, Del.
- S-2 REPORT OF THE NOMINATING COMMITTEE—Election of Administration Committee for 1956.
- S-3 FATTY ACIDS SYMPOSIUM—Moderator, Dr. D. H. Terry, Bon Ami Co., New York.

- (a) "BASIC CHEMISTRY OF FATTY ACIDS"—Dr. H. C. Black, Swift & Co., Chicago.
- (b) "THE RELATIONSHIP OF USE OF FATTY ACIDS TO THEIR PROPERTIES AND TO ANALYTICAL METHODS"—William S. Baldwin and Harold Witcoff, General Mills, Inc., Minneapolis, Minn.
- (c) "NITROGEN DERIVATIVES OF FATTY ACIDS"—Dr. M. R. McCorkle and Paul D. DuBrow, Armour and Co., Chicago.
- (d) "STORAGE AND HANDLING OF FATTY ACIDS"—Dr. George Zinzalian, E. F. Drew & Company, Inc., New York.
- (e) "APPLICATIONS OF FATTY ACIDS"
  - 1. FATTY ACIDS FOR METALLIC SOAPS
  - 2. INFLUENCE OF FATTY ACIDS COMPOSITION ON VISCOSITY OF POTASH LIQUID SOAPS—R. D. Aylesworth, R. H. Dhanau, L. A. Stegmeyer, Emery Industries, Inc., Cincinnati.
- (f) "OTHER CHEMICAL SPECIALTY PRODUCTS"—Dr. H. G. Lederer, R. M. Hollingshead Corp., Camden, N. J.

## WAXES AND FLOOR FINISHES DIVISION— GEORGIAN ROOM

A. E. Budner, Presiding

9:00 A.M.

- W-1 ADDRESS OF THE DIVISION CHAIRMAN—A. E. Budner, S. C. Johnson & Son, Inc., Racine, Wis.
- W-2 REPORT OF THE NOMINATING COMMITTEE—Election of Administrative Committee for 1956.
- W-3 "ZEIN IN PROTECTIVE FLOOR FINISHES"—Thomas K. Maher and Robert D. Struthers, Corn Products Refining Co., New York.
- W-4 "SILICONES; THEIR INFLUENCE ON THE FURNITURE POLISH MARKET"—Thomas H. Reilly and Donald B. Brown, Silicone Products Department, General Electric Co., Waterford, N. Y.
- W-5 "INVESTIGATION OF POLYMER LATEX PHENOMENA"—(Motion picture): John W. Vanderhoff, Dow Chemical Co., Midland, Mich.
- W-6 REPORT OF SCIENTIFIC COMMITTEE—H. J. Mellan, Durez Plastics & Chemicals, Inc., N. Tonawanda, N. Y.
- W-7 The Waxes and Floor Finishes Division will join the Disinfectants and Sanitizers Division in the French Room for the following paper:
- W-7 "DISINFECTANT TEST METHODS"—Dr. Saul Kaye, Chief, Decontamination Branch, Camp Detrick, Frederick, Md.

## MONDAY AFTERNOON, MAY 16, 1955

### 12:30 P.M.—LUNCHEON—GOLD COAST ROOM

Melvin Fuld, Presiding (President, C.S.M.A.)

G-1  
G-2 BUSINESS MEETING—Melvin Fuld, Presiding  
ELECTION NOMINATING COMMITTEE

ANNOUNCEMENTS  
ADDRESS: "YOU MAKE THE DIFFERENCE"—W. H. Gove, Vice President for Sales, E. M. C. Recordings Corp., St. Paul, Minn.

## AUTOMOTIVE DIVISION—FRENCH ROOM

A. James Coulter, Presiding

2:00 P.M.

- AU-1 ADDRESS OF THE DIVISION VICE CHAIRMAN—A. James Coulter, Gulf Oil Corp., Pittsburgh.
- AU-2 REPORT OF NOMINATING COMMITTEE—Election of Administrative Committee for 1956.
- AU-3 "AUTOMOTIVE COOLING SYSTEM CLEANERS—WHY AND HOW"—Jean Bordeaux, Jr., R. M. Hollingshead Corp., Camden, N. J.
- AU-4 "ACTIVITIES OF THE ASTM COMMITTEE D-15 ON ENGINE ANTIFREEZE"—R. J. Holzinger, Socony Vacuum Laboratories, Brooklyn, N. Y.
- AU-5 DISCUSSION MODEL BRAKE FLUID BILL
- AU-5 RREPORT ON BRAKE FLUID PRODUCT SURVEY FOR 1954—C. E. Allardice, Jr., Bell Co., Chicago.

SOAP and CHEMICAL SPECIALTIES

## INSECTICIDE DIVISION—GRAND BALL ROOM

- 2:00 P.M.
- I-1 ADDRESS OF THE DIVISION CHAIRMAN—George W. Fiero, Esso Standard Oil Co., New York.
  - I-2 REPORT OF THE NOMINATING COMMITTEE—Election of Administrative Committee for 1956.
  - I-3 "STUDIES ON MODE OF ACTION OF PYRETHRINS"—Dr. C. W. Kearns, University of Illinois, Urbana.
  - I-4 "THE STRUCTURE, LIFE HISTORY AND HABITS OF INSECTS AS THEY RELATE TO CONTROL"—Glen Lehker, Professor of Entomology, Purdue University, Lafayette, Indiana.
  - I-5 "CANADIAN RECOMMENDATIONS FOR HOUSEHOLD INSECT CONTROL"—Dr. C. R. Twinn, Canada Department of Agriculture, Ottawa, Canada.
  - I-6 "LABORATORY AND FIELD TESTS ON FLY REPELLENTS"—D. E. Howell, Oklahoma A & M College and Dr. Lyle D. Goodhue, Phillips Petroleum Co., Bartlesville, Okla.
  - I-7 "RESULTS OF HOUSEHOLD AND INDUSTRIAL INSECTICIDE PRODUCTS SURVEY," by Dr. George W. Fiero, Esso Standard Oil Co., New York.

## MOTION PICTURES—WALTON ROOM

- 2:00 P.M.
- "BITING FLIES"—Produced by Entomology Division, Science Service, Canada Department of Agriculture, Ottawa, Canada
  - "THE SPRAY'S THE THING"—E. I. du Pont de Nemours & Co., Inc., Kinetic Chemicals Division, Wilmington, Del.
  - "GOODBYE MR. ROACH"—Velsicol Corp., Chicago.

"OPEN HOUSE"—6:00 P.M. to 9:00 P.M.

List available at about 3:00 P.M.

## TUESDAY, MAY 17, 1955

9:00 A.M. to 4:00 P.M.

### REGISTRATION—FRENCH ROOM FOYER

9:00 A.M. to 10:00 A.M.

### BOARD OF GOVERNORS MEETING—PARLOR C

## TUESDAY MORNING, MAY 17, 1955

### GENERAL SESSION—GRAND BALL ROOM

E. G. Klarmann, Vice President, Presiding

9:15 A.M.

- G-1 REPORT OF THE SECRETARY—H. W. Hamilton, Chemical Specialties Manufacturers Association
- G-2 "WHO WORRIES ABOUT BUSINESS?"—Melvin Fuld, Pres., Chemical Specialties Manufacturers Association, Fuld Bros., Inc., Baltimore, Md.
- G-3 REPORT OF THE TREASURER—P. C. Reilly, Reilly Tar & Chemical Corp., Indianapolis, Ind.
- G-4 "USING THE AIRLINES IN YOUR BUSINESS"—Thomas J. Harris, American Airlines, New York.
- G-5 "THE NEW ERA IN LABELING REQUIREMENTS"—R. J. Morse, Boyle-Midway, Inc., New York.
- G-6 "PRODUCTS LIABILITY AND LABELING"—John D. Conner, Counsel, CSMA, Washington, D. C.
- G-7 "USE OF POINT-OF-SALE DISPLAYS IN THE CHEMICAL SPECIALTIES INDUSTRY"—John F. Kirk, Velsicol Corp., Chicago, assisted by Dr. Roger W. Roth, L. E. Carls of Velsicol Corp., and Earl M. Roach and Daniel Kemper of Arvey Corp., Chicago.

## TUESDAY AFTERNOON, MAY 17, 1955

### LUNCHEON—GOLD COAST ROOM

H. E. Peterson, Vice President, Presiding

Address by Robert T. Secrest, Federal Trade Commission, Washington 12:30 P.M.

G-3 ANNOUNCEMENTS

MAY, 1955

## JOINT SESSION—AEROSOL DIVISION & DISINFECTANT AND SANITIZERS DIVISION—WALTON ROOM

Presiding, Charles E. Beach and A. G. Bowers

- AD-1 "DEVELOPMENT OF AN AEROSOL ROOM DEODORANT"—Paul Checkovich, Airkem, Inc., New York.
- AD-2 "PUSH BUTTON LIVING"—Film.
- AD-3 "GLASS AEROSOLS FOR DISINFECTANTS AND ANTI-SEPTICS"—Dr. F. A. Mina, Zonite Products Corp., New Brunswick, N. J.
- AD-4 "TESTING AEROSOL BOMBS FOR GERMICIDAL AND SANITIZING ACTIVITY"—L. S. Stuart and J. L. Friedl, Pesticide Regulation Section, Plant Pest Control Branch, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C.
- AD-5 "THE CASCADE IMPACTOR FOR PARTICLE SIZE ANALYSIS OF AEROSOLS"—Dr. J. Mason Pilcher and Ralph I. Mitchell, Battelle Memorial Institute, Columbus.

## JOINT SESSION—AUTOMOTIVE DIVISION & WAXES AND FLOOR FINISHES DIVISION—GRAND BALL ROOM

Presiding, A. James Coulter and C. S. Kimball

- 2:00 P.M.
- AW-1 "WILL YOUR LABEL PRECAUTIONS WEATHER THE NEW CLIMATE?"—Dr. A. Haldane Gee, Foster D. Snell, Inc., New York.
  - AW-2 "HAND AND SEMI-AUTOMATIC LABELING OF ROUND CONTAINERS"—D. I. Long, Atlantic Supply Co., Baltimore.
  - AW-3 "PRINTING ON GLASS AND METAL CONTAINERS"—Melvin Fuld, Fuld Bros., Baltimore.
  - AW-4 "COOLING PROBLEMS ENCOUNTERED IN MODERN AUTOMOBILES"—H. R. Reynolds, Harrison Radiator Div., General Motors Corp., Lockport, N. Y.

## INSECTICIDE DIVISION—FRENCH ROOM

Carlos Kampmeier, Presiding

- 2:00 P.M.
- I-7 "THE NEW ENTOMOLOGICAL SOCIETY OF AMERICA"—Robert H. Nelson, Executive Secretary, Entomological Society of America, Washington, D. C.
  - I-11 "DOES FLY CONTROL ON LIVESTOCK PAY?"—Dr. George C. Decker, Illinois Natural History Survey, Urbana.
  - I-9 "U.S. DEPARTMENT OF AGRICULTURE FUNCTIONS UNDER PUBLIC LAW 518"—J. T. Coyne, Assistant Head, Pesticide Regulation Section, Plant Pest Control Branch, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C.
  - I-10 "THE KHAPRA BEETLE"—Dr. L. S. Henderson, U. S. Department of Agriculture, Biological Sciences Branch, Stored Products Division, Washington, D. C.

## SOAP, DETERGENTS AND SANITARY CHEMICAL PRODUCTS DIVISION—GEORGIAN ROOM

James M. Cloney, Presiding

- 2:00 P.M.
- S-4 REPORT OF THE SCIENTIFIC COMMITTEE—J. C. Harris, Chairman, Monsanto Chemical Co., Central Research Div., Dayton.
  - S-5 "PREPARATION AND STABILITY OF RADIOACTIVE CHROMIUM PHOSPHATE AND RADIOACTIVE BACTERIA FOR USE AS SOIL TRACER INDICES"—E. H. Armbruster and G. M. Ridenour, Research Associate and Associate Professor in Public Health Engineering, School of Public Health, University of Michigan, Ann Arbor, Mich.
  - S-6 "TECHNIQUES FOR EVALUATING LOW-FOAMING DETERGENTS"—Manuel N. Fineman, Harold L. Greenwald and Charles G. Gebelein, Rohm & Haas Co., Research Laboratories, Bridesburg, Pa. Presented by Dr. Manuel N. Fineman.
  - S-7 "A NEW CLASS OF FOAM AND DETERGENCY IMPROVERS"—R. L. Mayhew, A. Stefick and C. F. Jelinek, General Aniline & Film Corp., Easton, Pa.
  - S-8 "ANTI-STATIC PRODUCTS"—Dr. R. D. Fine, Atlas Powder Co., Wilmington, Del.

# SANITIZER-DETERGENTS

**... based on solutions of free iodine and iodine liberating chemicals plus nonionics finding wider application**

**By Dr. Louis Gershenfeld\***

Director, Department of Bacteriology  
Philadelphia College of Pharmacy and Science

In this presentation, I will consider briefly the use of solutions of free iodine and iodine-liberating chemicals as sanitizers and sanitizer-detergents. I will attempt to indicate their effective application as sanitizing agents in different fields of sanitary practice. Before considering these various aspects, it may be of interest at this time to make some general remarks as they concern the responsibility of those in industry who manufacture, distribute, or are associated directly or indirectly, in the sale and distribution of sanitary aids.

The term or word "sanitation" like many other terms is flexible in that the meaning has varied throughout the ages. There is a more rigid and definite meaning today for this term as compared with that held by those in previous generations. The term "Environmental Medicine" and "Environmental Sanitation" are relatively new, but they have found general acceptance in public health routine.

Legal responsibility for the enforcement of sanitary practices in public establishments rests with local departments. Standards of sanitary practices of all kinds are fixed by each State and frequently aug-

mented by local ordinances, regulations, or laws. The U. S. Public Health Service, one of the Federal agencies directly responsible for the sanitation of interstate carriers and federally operated institutions has developed recommended standard practices which now serve in many instances as the basis of state and local codes. However, we must always remember that, in the final analysis, the level of sanitation practiced in public eating establishments rests in great measure with the patrons, the general public.

## **Sanitation Teamwork**

ENVIRONMENTAL sanitation and its development are not the specific task of the sanitarian alone. Teamwork is necessary between health worker, lay worker, and industry to solve the many and varied complex problems of environmental sanitation. The sanitarian must always be a public health statesman, a difficult task indeed. Industry, however, can aid him greatly and its support will be gladly accepted, providing no strings are attached to the aid given. If all interests participate and cooperate and there is unified planning, environmental sanitation with all its complexities can be made to be understood and appreciated, with a resulting stimulation of effec-

tive action. This, of course, does not disregard the fact that, for effective results, sanitary practice requires training and discipline with a complete understanding of its importance and a full recognition of its benefits. But we need to develop personal attitudes so as to become and be ever conscious of the need for proper sanitation. We must create a real desire on the part of all concerned to achieve this. In the final analysis there is bound to be justifiable pride in the results obtained. These results as noted by changes and improvements in environmental health, in addition to their many other valuable returns, can also be measured by an expansion of the economy and a happier community as well as by other factors which may be self-evident. Industry must recognize and accept its responsibility in the broad field of development of such planning and especially a willingness to cooperate and expand the presentation of impartial health data to the uninformed. Ignorance and disease must be attacked simultaneously.

Industry in general certainly recognizes the importance of preventive measures. Every day in the business world, we see frequent repairs, replacement of defective machines and parts for them, inspections of buildings and preventive

\*Presented before Disinfectants and Sanitizers Division, 41st Midyear Meeting, Chemical Specialties Manufacturers Association, Chicago, May 16, 1955.

maintenance, painting to prevent corrosion, and attention in the care of instruments of precision and production. In many instances, legal requirements demand periodic inspections of boilers, other equipment, and even trucks and automobiles. The importance and requirements of suitable measures to prevent disease and even the economic advantages of proper environmental sanitation are denied, if at all, only by the uninformed. It is well to recognize the trust that should concern those in industry making available products for use in the fields of environmental sanitation. Man's health and welfare are the concern of all, both professional men and laymen. Chemical specialties makers should commit themselves to this great trust as is done by those in industry in related fields.

In the very nature of things, rural areas and small communities are not always able to provide a complete or an adequate health and sanitation service for all people located there and others using the facilities found therein. Some states attempt to regulate such areas, but in most instances the service is inadequate or is often no more than mere regulations written on paper. Here, as elsewhere, health departments, industry, laymen, and manufacturers supplying sanitary aids have a common interest in providing the best possible facilities and tools for the continued development of the preventive aspects of environmental sanitation. Cooperative arrangements can result in increased efficiency. It appears to me that, in great measure, manufacturers of sanitizers and sanitizer-detergents suffer through isolation from general public health considerations of all kinds. They, reaching as they do a large percentage of dairy, food, eating, and drinking establishments, can aid all concerned in providing effective data for education in matters of health and sanitation. This can be extended even to the general public. Certainly, no one should market a sanitizer or sanitizer-detergent unless it has been thoroughly

investigated, tested, and tried under most conditions of practical use.

It behooves those in a group such as the Chemical Specialties Manufacturers Assn. to create closer working relations between industry and users, especially through organizations of this character. Then there must be cooperation with health departments on a national, state, and local level. You should become members in various joint teams whose function is to plan and develop effective programs of sanitation. You can be very helpful in interpreting the formulated plans to technical and non-technical help and in obtaining the understanding and support of the latter as well as that of the public in general. Manufacturers and distributors of sanitary aids should commit themselves especially to this great trust of environmental sanitation and environmental health. Its value will be a real one to be shared by all concerned. You can and should arrange to explore common interests, to implement an existing environmental health program, and work out cooperative relationships.

*Useful Definitions*—The emphasis of this presentation as indicated previously is on the use of solutions of free iodine and iodine-liberating chemicals as sanitizing agents. In the case of sanitizers sold in interstate commerce, there is today in existence in this country an official body which regulates such agents and which can and does compel a manufacturer to produce evidence so that claims, labeling, and practical performance can be reconciled. In fact, sanitizers distributed, sold, or offered for sale in interstate commerce must be registered with the U. S. Secretary of Agriculture. It is he and associates in his department who supervise the enforcement of the new Federal Insecticide, Fungicide, and Rodenticide Act, which became effective November 1, 1947. State and local enforcement agencies may in few instances augment Federal requirements, even as it may concern the meaning of different technical and scientific terms

as may be used by manufacturers and distributors of sanitizers in various brochures and other data supplying information concerning their products.

The following briefly presents definitions of many of these terms as they reflect present-day usage. Among the terms which have a legal or a so-called official definition are "Antiseptic" and "Disinfection."

### Definitions

**T**HE term "antiseptic" has a legal definition and the precise wording is included in the Federal Food, Drug, and Cosmetic Act of 1938. It is the only term used for biocidal agents which is actually defined in an Act of Congress. This definition can only be changed by the Congress itself, whereas definitions given in different Regulations may and can be changed by the Department or Division issuing and supervising the latter. Briefly, an antiseptic is a substance which will either kill or prevent the growth and development of micro-organisms, according to the kind of preparation and the period of contact. The term is used especially for preparations applied to the living body. If in contact for a short period of time (as in a mouth wash, eye wash, or vaginal douche), the substance must kill during the time period of use if it is to be labeled an antiseptic. If it involves prolonged contact with the body (as in the use of a dressing, dusting powder, plaster, or ointment), it can be labeled an antiseptic even if it is only inhibitory in its action, that is, preventing the growth and development of micro-organisms. The sale or distribution of antiseptics in interstate commerce in this country is under the jurisdiction of the Food and Drug Administration and not the U. S. Department of Agriculture. However, the latter also has jurisdiction if the same product is labeled as a disinfectant or for use on inanimate objects.

The American Public Health

Association has given an almost official status to the term "disinfection," defining the latter as the "killing of pathogenic agents by chemical or physical means." At present, efforts are directed towards encouraging the use of this term for substances which will destroy or inactivate microorganisms which produce disease or are otherwise harmful, and furthermore to be employed for substances applied to inanimate objects. Both terms, antiseptic and disinfectant, do not necessarily include the destruction of resistant spore forms.

The suffix "cide" means to destroy or kill; so we hear of bactericide, sporicide, virucide, fungicide; and the same suffix is applied to individual microorganisms, as gonococcidal agent, tuberculocidal, spirocheticidal, etc. The term "germicide," is used synonymously with the term bactericide. All chemicals which kill microorganisms (except sporicides) do not necessarily kill bacterial spores. It is, however, important to examine the Service and Regulatory Announcements (No. 167) for interpretations if your product is subject to the regulations of the Federal Insecticide, Fungicide, and Rodenticide Act. Here we find the term "fungi" defined to include "all such organisms as rusts, smuts, mildews, molds, yeasts, and bacteria," and typical examples of fungicides are given. The suffix "static" or "stat" refers to an inhibitory action or the prevention of growth and development of microorganisms, as bacteriostatic, fungistatic, etc.

The term "biocidal" is being used more and more frequently today. There are some agents which are bactericides, fungicides, and virucides, in fact they destroy a large array of different microorganisms. To avoid using many terms to describe such all-inclusive killing effect, the designation "biocidal" is employed for such purpose in this presentation. The term is of value to indicate the effectiveness of free iodine solutions in practical applications.

A sterilizing agent or a sterilizing process is one which destroys *all microorganisms including spores*. Such an agent or process is extremely exacting and in most instances proper autoclaving procedures (steam under pressure) are used for attaining sterility in practice. The term "sterile" has an exact meaning and such relative terms as "almost sterile" are used incorrectly. The product is either sterile or not sterile; it cannot be "almost sterile" or "approximately sterile."

A "sanitizer" refers to a substance which reduces the microorganism content to safe levels as may be evaluated or judged by public health requirements and regulations. It is applied only to inanimate objects and usually also implies a condition of cleanliness. The term is employed particularly when used as a germicidal rinse for previously cleansed surfaces as multi-eating, drinking, and other food utensils, dairy and food equipment, etc. Sanitizers are employed not only to safeguard public health, but also to preserve the quality of dairy and other food products. Saliva-borne diseases constitute to a great extent an unsolved problem in communicable disease control. The spread of disease from substances contaminated by human hands is very real and significant. The spoilage of milk and dairy products and other food substances due to high bacterial content is very costly. Sanitizers properly used can eliminate or reduce the numbers of microorganisms in both instances, so as to serve a valuable purpose in public health and in industry.

"Detergents" are cleansing agents which remove dirt or soil or foreign material from objects as they are being washed. The more efficient practical detergents possess maximum or at least a great and easy dirt-removing property, with effective performance in the shortest time, with no damage to the articles treated, no adverse or objectionable effect upon the user, and with the minimum of manual labor. Agents which sanitize as they clean, when being used to wash, are known as

"Detergent-Sanitizers" or "Sanitizing Cleaners."

### Surface Active Agents

**SURFACTANTS and Surface Tension**—Liquids are composed of large numbers of individual molecules. In the interior portion, these molecules are surrounded by like molecules, so that there is an identical or equal attraction in all directions. On the other hand, molecules at the surface are not necessarily surrounded by identical molecules. Here the molecules are subject to unequal forces of attraction, which tend to pull them in, so as to make the surface as small as possible. It is this force which is known as the surface tension. Inasmuch as it exists wherever two phases come in contact with each other, the term interfacial tension is used at times.

A rise in temperature results in a decrease in the surface tension of all liquids. Various substances dissolved in the liquid usually affect the surface tension. Surface activity has been studied most extensively and is best known in aqueous systems. Inorganic salts may increase slightly the surface tension of water but generally most of these compounds have little effect. Carbohydrates usually have practically no effect. Other organic substances, however, such as alcohol, bile salts, and soap, markedly decrease the surface tension of water. This lowering may occur even when the substance is present in very low concentrations. It is the lowering of the surface tension of water by soap and other agents that makes possible the stretching of the water film to form bubbles. To a great extent, the action of wetting agents rests upon the fact that as the surface tension is lowered, adhesive forces produce a water film over the surface of the object to be wetted. Accordingly, there is better coverage or spreading and better contact with resulting better effects of any other action characteristic of the particular agent, as for instance an antibacterial effect.

Substances which display sur-

face activity, especially soaps, have been with us for ages. Sulfonated oils as a class have been known for more than a century. It is to the synthetic organic compounds displaying surface-activity and so extensively used in industry during the last two decades that the term "surfactant" is usually applied today. Detergents, even in weak aqueous solutions, lower the surface or interfacial tension of water, so that they are also known as "surface tension depressants" or "depressors" or "wetting agents" or "surfactants." These newer detergents include many chemical types and all are designated synthetic, having been developed only recently by chemical research.

#### *Classification of Surfactants*

— In the light of our present day knowledge, it is not possible to present a simple classification or a quantitative correlation between the chemical constitution of surfactants in use today and their surface-active behavior. Most surface-active substances are complex mixtures, frequently contaminated with impurities difficult to remove, and the *definite* structure of which is frequently unknown. It is impossible to evaluate all of them in terms of a simple or easily performed reproducible technique, which will measure accurately a particular characteristic. Empiric methods, however, may make available a means of approximately evaluating certain of the complex phenomena. An effective wetting agent may also be a detergent or dispersing, emulsifying, frothing, antifrothing, spreading, penetrating, solubilizing, or wetting agent. It may also be that the detergent effect displayed by an agent will be specific for one type of material but not for another, in the same manner that a bactericidal agent may be effective for a specific microorganism and not necessarily non-selective in its action. It must be recognized that the varied properties of surfactants noted above frequently represent complex phenomena. But basic to all the phenomena is the effect of a decrease in free energy at the interface. It is rare for a

surfactant to display only one property to the exclusion of the others mentioned above. Nevertheless one particular use may predominate and, even here, the relative effectiveness may vary under different conditions of use. For instance, the wetting property of a surfactant may predominate for one particular textile but not for another or it may serve as an effective emulsifying agent for one oil but not for another oil of different composition. Each has its own particular properties and this in part accounts for the large number of such agents. In many instances these compounds are tailor-made for specific purposes. In other instances the raw materials employed in the production of the surfactant may be substances which the producer already is manufacturing or has on hand.

#### **Surfactant Described**

**A**LL of the surface active agents with which we are concerned in this presentation are water-soluble and lower the surface tension of water markedly even in very small concentrations. Structurally, their molecules are characterized by a large hydrophobic hydrocarbon group to which at some point there is attached one or more hydrophilic groups. The location and electric charge of the latter, together with the shape and size of the former (hydrophobic group) and the balance between the two groups, are responsible for the more important characteristics and behavior of the particular surfactant. Classification is made by some on the basis of use in practice or the nature of the hydrophobic group or the solubilizing group or other specific characteristic common to the compounds.

A more common practice today is to classify surfactants based on the presence or absence of a charge on the colloidal particles dispersed in water. Accordingly, there are the ionic or ionogenic surfactants and nonionic surfactants. Among the ionic surfactants, there are the cationic and anionic compounds. If the active portion of the surfactant has a negative elec-

trical charge, it is designated as anionic. Where the effective portion of the surfactant has a positive electrical charge, it is known as a cationic surface-active agent. It is possible to prepare a bi-ionic surfactant, a compound which is anionic in an alkaline medium and cationic in an acid medium. The pH of the solution controls the portion of the molecule displaying the effective activity. Such compounds are at times known as ampholytes or amphoteric electrolytes. The latter group does not include at present any important commercial product. In fact, little attention has been given to such surfactants. Mention of these products is not usually made and no recognition is generally given to ampholytic (or amphoteric) surfactants as a separate class of grouping.

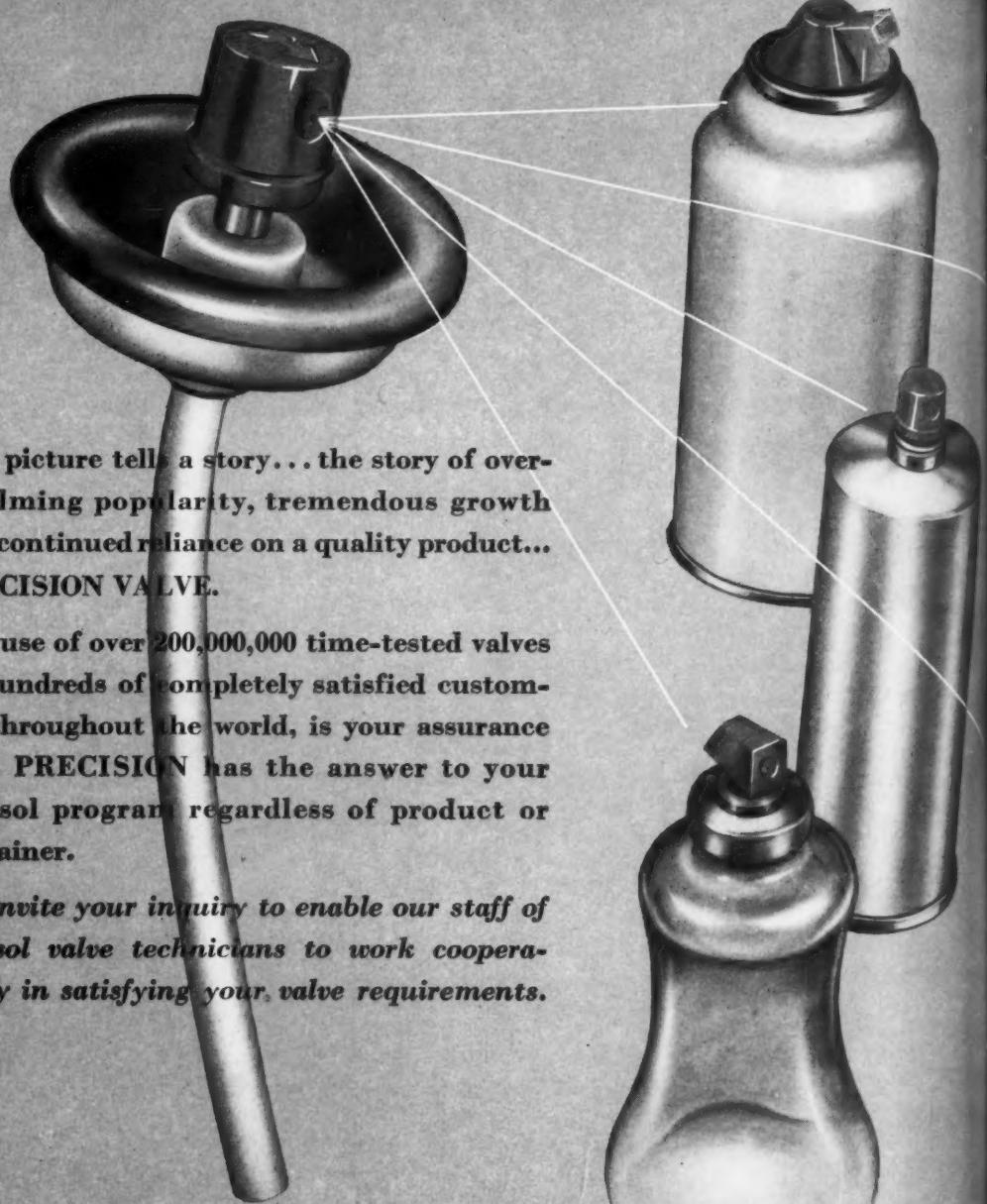
#### *Iodophors* — At present, the

ionic surfactants, though they can be used, nevertheless have not found general acceptance as solubilizing agents or carriers or possessors of other useful characteristics for combination with iodine to produce so-called "iodophors." Accordingly there are no commercial preparations on the market which are combinations of iodine with an amphoteric, anionic, or a cationic surfactant. The one exception, however, is a cationic iodophor concentrate marketed on the West Coast and reported recently as being "recommended for the disinfection of the skin, in operative procedures, for thermometers and surgical instruments"(1)

Non-ionic surfactants are at present being extensively used in the production of "iodophors," wherein the non-ionic compound serves as a carrier and solubilizing agent for the iodine. Such iodophors have passed the experimental laboratory and field survey stages and are now in reasonably large scale production. Non-ionic surfactants display their activity in and are resistant to hard waters and under a wide range of pH conditions (especially acidulated solutions), which usually render ionic

(Turn to Page 213)

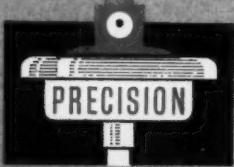
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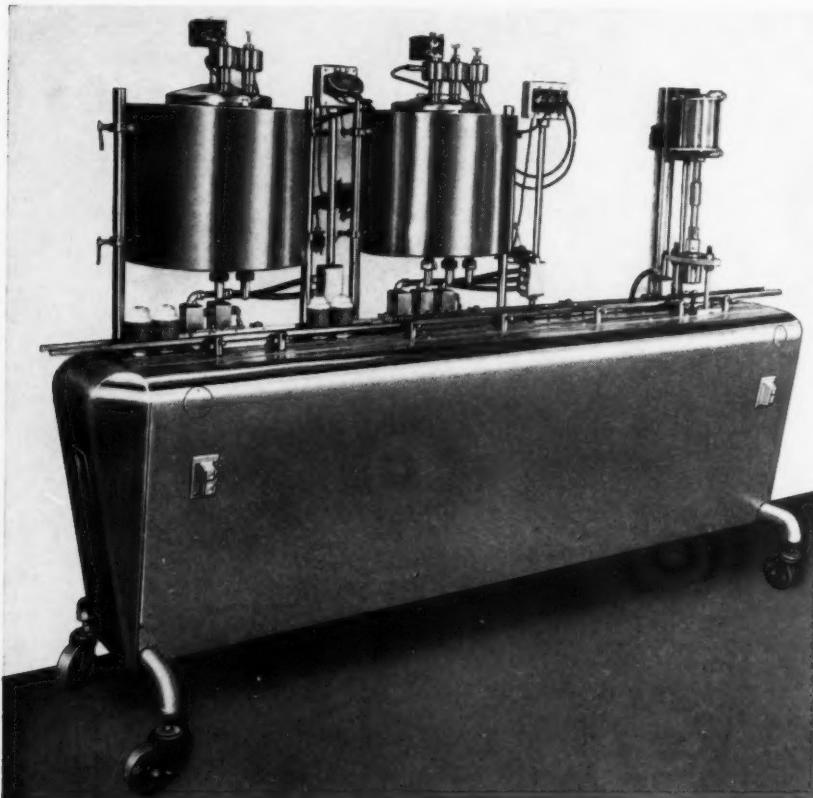
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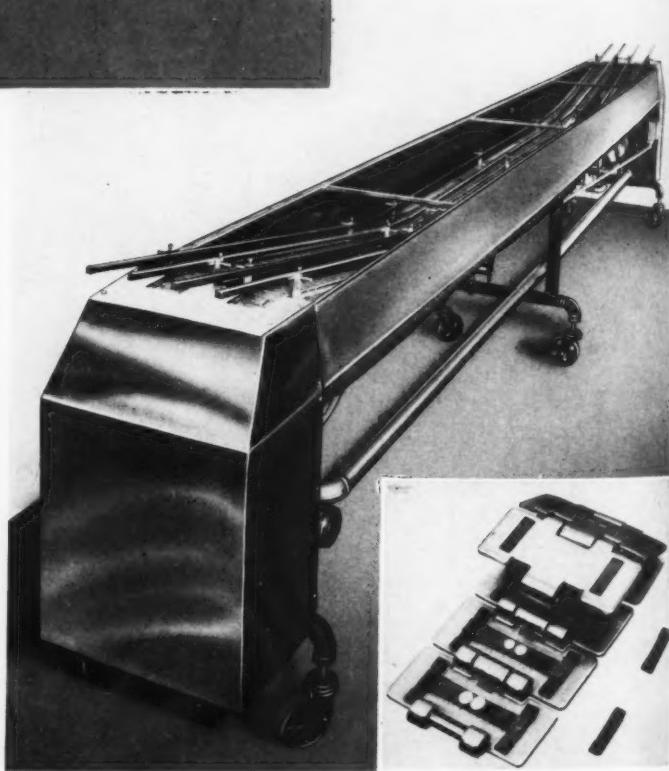
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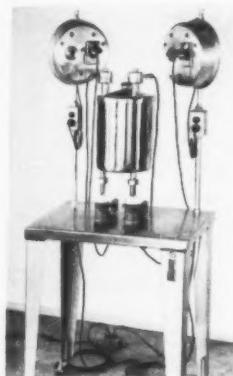
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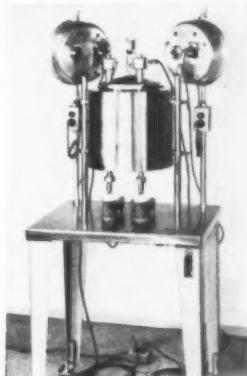
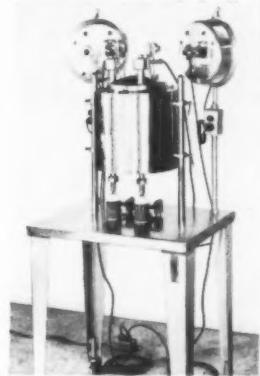
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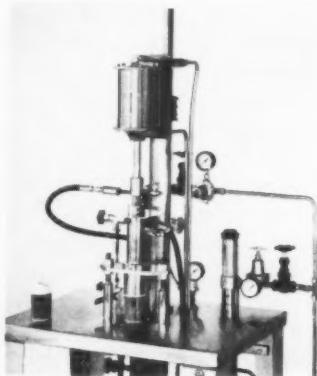
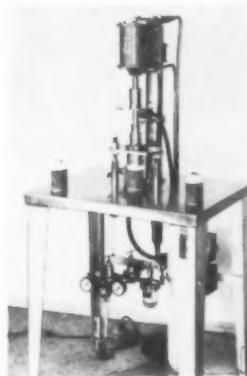
Model 701 "Electromatic" 2-spout room temperature product filler. Fills 15 cans per min.

Model 702 "Electromatic" 2-compartment 2-spout cold filler. Fills 15 cans per min. with both product and propellant.

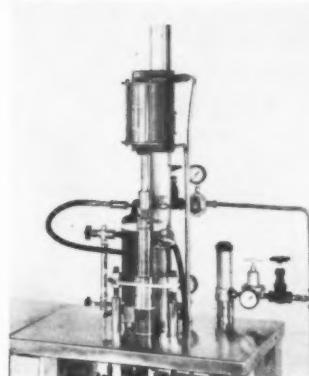


Model 703 "Electromatic" single compartment 2-spout cold filler. Augments model 702 for 25-30 per min. production.

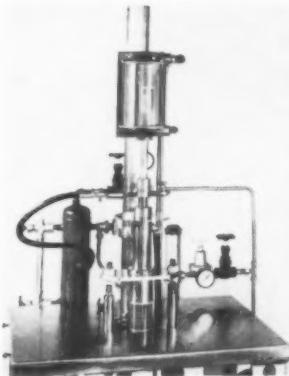
Model 704 25-30 per minute valve crimper. Air operated.



Model 705 propellant pressure filler. Air operated. 40 grams Max. Cap.

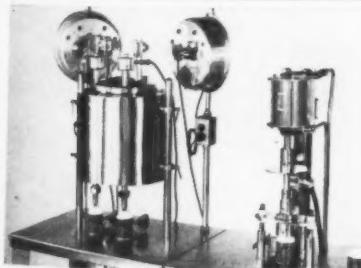


Model 706 100 gram max. capacity propellant pressure filler.



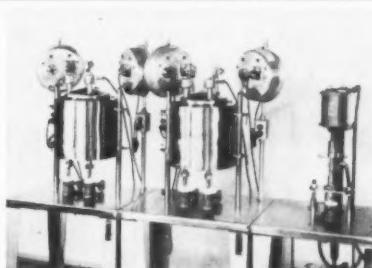
Model 707 300 gram max. cap. propellant pressure filler.

All above "700 series" units come mounted on separate 24" x 32" stainless steel-covered tables. Casters permit quick, easy change-about. Latching devices combine units into unbroken work-base. See typical operating set-ups below.



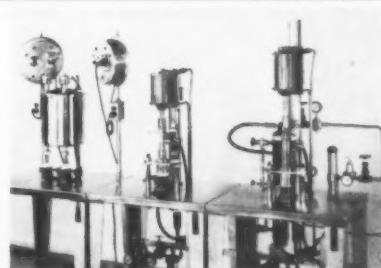
15 per minute cold fill set-up.

Model 702 "Electromatic" 2-compartment filler loads both product and propellant. Model 704 valve crimper finishes packaging operation.



25-30 per minute cold fill set-up.

Model 703 "Electromatic" filler loads product; Model 702 loads propellant from both compartments; Model 704 valve crimper completes operation.



Pressure fill set-up.

Model 701 "Electromatic" filler loads product at room temp.; Model 704 crimper attaches valves; Model 706 propellant pressure filler completes operation.

"Electromatic" fillers are designed and engineered by Mojonnier Associates, Inc., and are licensed under U. S. Pat. Re. 23,830. "Electromatic" is a trade mark designating these fillers.

## MOJONNIER ASSOCIATES, INC.

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# Aerosol Safety Factors

By A. Haldane Gee, and George W. Fiero

Foster D. Snell, Inc.

Esso Standard Oil Co.

**F**INDING out whether pressure packed spray formulations are reasonably low in toxicity for the user is relatively easy in the case of some products and difficult in the case of others.

The evaluation of any aerosol package—contents and labelling and directions—from the standpoint of possible toxicity hazards is a special example of the general problem of evaluating any chemical specialty. If there is only one active ingredient, it is often possible to form at least a tentative opinion as to possible toxic effects or levels without conducting new or additional tests. With several ingredients, the situation is more complicated. Even so, some formulations may be appraised without special biological tests. For many formulations, however, biological testing (including tests on humans) is essential before a conclusion can be reached as to comparative safety for use, or as to the adequacy of any warning or directions.

## Safety History

**A**EROSOL products in general have an excellent safety record. An index of the success of the aerosol industry in the development of relatively safe formulations is the rate of growth in units and in variety of applications that is strikingly apparent from the reports to this section as recorded in the *Proceedings* of the last mid-year meeting.

\*Paper presented before 41st annual meeting of the Chemical Specialties Manufacturers Assn., New York, Dec. 7, 1954.

This indicates proper responsibility on the part of the industry, common sense on the part of the consumer, and due vigilance on the part of the regulatory agencies.

In some respects, it is easier to evaluate the toxic hazard of a household aerosol product than the hazard of some liquid household specialty. In other respects, the aerosol product is the more difficult to appraise. The aerosol product will likely have a less complicated formula, but the conditions of use may be less well defined. The aerosol product tends to be self fractionating, hence synergistic effects between ingredients are minimized. The possibility of increased hazard from inhalation of vapor or aggravated irritation is ever present with the aerosol products. The liquid product, however, is more likely subject to wrong use, such as swallowing by children.

## Intrinsic Hazards

**P**OSSIBLY there have been aerosol preparations placed on the market that have been potentially dangerous to the user. Any product that remains on the market, however, or is permitted to remain on the market, must be relatively safe for use. This will frequently entail compromise, since the active agents or their carriers are frequently potential hazards and necessarily so, if they are to serve the purpose for which they are intended. An insecticidal preparation, for example, must be considered dangerous

to man, unless properly used. The best solvent for some particular application may also be one with a hazard to humans on repeated exposure. The most convenient propellant, for some products, may have undesirable physiological effects, thus necessitating a choice between the most efficient material and a loss of efficiency on the part of an operator, who may need safety gear or additional ventilation. This is more likely to be the case, however, with a commercial application than a household product.

### Effects of Improper Use

**A**N appraisal of the hazards presented by any chemical specialty product must include the possibility of wrong use, accidental or otherwise, as well as for ordinary use or use in accordance with directions. In the case of an aerosol, wrong use can include the release of the material into the eye, or use with inadequate ventilation, or frequent or continuous use where neither were intended, thus presenting the risk of chronic effects. Also, the risks attending ordinary use may require reappraisal from time to time, in the event that new information becomes available on the relative safety of a moderately toxic ingredient, or since conditions of ordinary use of a product are, through ignorance or carelessness, subject to change.

### Quantitative Aspects

**I**N any toxicological evaluation, the quantitative aspects of the situation must be kept clearly in mind. In this discussion, no attempt will be made to determine whether there is any industrial hazard in the manufacturer's plant by reason of the materials being filled. Beyond this, however, three degrees of exposure can be visualized: frequent or continuous exposure on the part of a workman or user in some service industry, as with touch-up paint in a repair garage; frequent exposure on the part of a domestic or household user, as with a spray deodorant; and occasional use, as

with a consumer insecticide formulation. In all of these, ventilation conditions may vary, further complicating the problem. It is undoubtedly advisable, however, to assume the worst conditions under each situation, as to frequency of use, and lack of ventilation, when evaluating the effects of exposure. A salesman or demonstrator, for example, may suffer ill effects from repeated exposure to a household product not properly considered a hazard under ordinary use conditions.

### Temptation to Generalize

**A**FURTHER difficulty is the temptation to generalize as to the effect of ingredients used in different products intended for different purposes. A hair-dry product may contain the same solvent as a rug cleaning compound, but the use conditions, hence the relative hazards, are entirely different.

The problem of establishing relative safety may be considered in three or four different ways. There are several types of possible bodily injury or irritation. The separate ingredients of the aerosol will each have their own potential effects. Products intended for specific purposes may require special attention, especially to probable or possible conditions of use. Finally, the particle size and the density of the aerosol are important in determining whether any product may have untoward physical effects, aside from its chemical or physiological effects.

### Hazards Defined

**T**HE first and obvious potential hazard with any aerosol formulation is the effect of inhalation, which may vary from no perceptible effect to headache, dizziness or even death. Even without subjective effects, there may be pathological changes in tissues or organs if the exposure is frequent or repeated. There may be irritation of the eyes or of the respiratory tract.

In the case of materials used frequently, the user may be subject

to skin irritation from the solvent or active ingredient. Some ingredients may be sensitizers, causing an allergic reaction, for example, in the case of certain perfumes such as rose oil to which some users may be unduly sensitive.

Despite these potential troubles it must be recognized that more or less standard formulations have been established for a variety of applications where the hazards enumerated are at a minimum. Any change of ingredient, however, as to kind or quantity, if a substantial change, will call for a reappraisal of the safety of the resulting combination. On behalf of these prospective difficulties it should be said that any and all of them should be kept in mind in the development of any radically changed formulation or product for some new use.

### Properties of Components

**W**ITH the hundreds of components in use today and more continuing to be added, we will attempt to evaluate only a few of them. Most aerosols and pressure packed products, except foam products, consist of four types of components:

1. propellant
2. solvent
3. active material
4. perfume

(1) *Propellents.* In the U. S. the principle propellents are chlorine-fluorine derivatives of methane and ethane, the du Pont "Freons" and General Chemical's "Genetrons," especially 11, 12 and 114. These have been found generally safe for use. With compounds of this type, concentrations of the order of several percent in the atmosphere are withstood by animals for exposure periods of two hours without serious effects. For continuous industrial exposure (daily for eight hours) a limit of 1000 ppm is usually set, which is still a comparatively low order of toxicity.

To a limited extent in the U. S. and to a greater extent in foreign countries, liquefied petroleum gases (propane, butane) are

used. These, in addition to presenting a fire hazard, may produce anesthetic effects at higher concentrations.

In some foreign countries, vinyl chloride has been used, although it has a narcotic action in appreciable concentrations. It may be regarded as comparable to ethyl chloride but less harmful than chloroform. Also, explosions may occur at concentrations below the toxic level.

Methyl chloride is used for greenhouse aerosols. It is so toxic that a gas mask must be used when applying it. Such use may be regarded as a special or commercial application.

### 2. Solvents.

(a) Chlorinated hydrocarbons: These materials as a class are excellent solvents, but many of them, such as carbon tetrachloride, are sufficiently toxic to be undesirable for use in household aerosols. One that is widely used is methylene chloride, which has a relatively low order of toxicity, although not as low as that established for "Freons" and "Genetrons." Another compound of the same class which is finding increasing use is methyl chloroform, which is regarded as comparable in toxicity to methylene chloride, hence acceptable in moderate concentrations or applications where comparatively small amounts of the aerosol are released at any one time.

(b) Hydrocarbons: These, particularly petroleum products, are probably the most extensively employed of all solvents in aerosol work. In insecticidal formulations they are used not only as a solvent but also because they possess some degree of insecticidal activity. Three general types are used: aromatic hydrocarbons, which are excellent DDT solvents; deodorized kerosenes and alkylates, which are extenders and carriers. Hydrocarbons may cause some toxic effects on inhalation or on repeated skin contact, hence any new materials should be evaluated toxicologically before being used in an aerosol

formulation. Some hydrocarbons, for example, may cause photosensitization effects, resulting in abnormal pigmentation of the skin or sensitivity to the sun.

(c) Oxygenated solvents: These are employed for certain aerosols. If ethyl alcohol is considered, a specially denatured alcohol of standard formulation suitable for the intended purpose may be selected, or isopropyl alcohol may be substituted. If ethers or ketones are used, their toxicity should be known or determined. Acetone, methyl ethyl ketone, ethyl and isopropyl ether may be safe for some applications. Other possibilities are cyclohexanone, isophorone, and mesityl oxide, although these three are more hazardous than methylene chloride or methyl chloroform.

(d) General: In evaluating possible solvents, it is frequently difficult to secure information on the effects of inhaling appreciable concentrations in the atmosphere for short periods or only at intervals. In the case of the more volatile materials, available data are frequently based on maximum allowable concentrations for continuous industrial exposure. In the case of the less volatile materials, comparisons are frequently based on relative oral or intravenous toxicity. Neither kind of information is a true index of the relative effects of short exposures to possible high concentrations of vapor, hence the desirability of deriving this specific information when the aerosol application suggests the use of a new material, or else limiting the choice to materials on which comprehensive toxicity information is already available.

3. Active Material. The active material will depend on the nature of the product and hence no generalizations as to toxicity are possible. Bronchial irritation and skin irritation are two possibilities that must be considered with practically every material, whether in the chemical specialty, cosmetic or drug field. Irritation effects on mucous membranes will depend to

some extent on particle size and irritation effects on skin will depend partially on the presence of solvents. Aside from possible irritation, however, it must be determined whether any other acute or chronic toxic hazards exist.

4. Perfumes. In most cases, perfumes will be used in relatively small quantities, either to disguise the odor of some less pleasant component or to impart a pleasing odor to an otherwise nondescript vapor. It is possible, however, that such agents may be sensitizers, although the essential oil supplier may have information on this—as to whether any significant percentage of the population may be allergic to a specific odor material or mixture.

### Common Formulations

**INSECTICIDAL aerosols:** Since these are such important aerosol products and represent such a large fraction of the aerosol business, considerable work has been done on formulations and on the relative toxicity of insecticidal ingredients for man. Standard formulae are available that are considered reasonably satisfactory, such as the following.

| Insecticidal Formula No. 1               |       |
|--|-------|
|  | %     |
| Pyrethrins                               | 0.25  |
| Dichlorodiphenyl trichlorethane<br>(DDT) | 2.0   |
| Piperonyl butoxide                       | 1.0   |
| Refined petroleum distillate             | 11.75 |
| "Freon" or "Genetron"                    |       |
| 11/12 50/50                              | 85.0  |
|  | 100.0 |

| Insecticidal Formula No. 2               |       |
|--|-------|
|  | %     |
| Pyrethrins                               | 0.1   |
| B-butoxy-b'-thiocyanodiethyl<br>ether    | 1.0   |
| Dichlorodiphenyl trichlorethane<br>(DDT) | 2.0   |
| Piperonyl butoxide                       | 0.8   |
| Aromatic petroleum distillate            | 5.0   |
| Refined petroleum distillate             | 6.1   |
| "Freon" or "Genetron"                    |       |
| 11/12 50/50                              | 85.0  |
|  | 100.0 |

Presumably, such formulations are effective against insects,

when properly used, and reasonably safe for man, also when properly used. It must nevertheless be recognized that statements like these are relative, and that caution and warning statements are frequently as important as the choice of formulation. Such materials should not, for example, be left as residues on food nor be left in contact with the skin.

*Deodorant mixtures:* Aerosol formulations for which deodorizing claims are made are appearing in increasing numbers. Some of the ingredients used are primarily masking in action hence not likely to be injurious except to hyper-sensitive individuals. Other ingredients are active deodorizers frequently oxidizing agents and potentially toxic. Two agents now employed in deodorizing aerosol formulations are "Meelum" and "Metazene." These have been studied toxicologically.

Because of the possible chemical activity of deodorizing agents, it is advisable to make sure that no reaction takes place between this material and the other components that might result in the formation of toxic materials.

*Hair lacquers:* Originally hair lacquers consisted of propellant and an alcoholic solution of shellac together with a small amount of perfume. These have been greatly modified in order to reduce fire hazard. Ethyl cellulose, which is now used, is essentially non-toxic. Diethylene glycol, however, used as a plasticizer, might be undesirable for some applications, but is not considered injurious in the concentrations used in hair lacquers (one to two percent).

In evaluating any aerosol formulation containing plastic materials, attention should always be paid to the accessory ingredients since these may frequently be more irritating than the resin itself, although frequently there are alternative possibilities in the selection, for example, of a plasticizer.

Analogous to the improvement in the safety of hair lacquers

has been a recent change in certain aerosol preparations sold as hair dry or nail dry materials. These contain an emollient, a solvent and a propellant. Carbon tetrachloride was used originally as the solvent for some of these, but this has been replaced by one of the comparatively non-toxic members of the chlorinated hydrocarbon family.

*Paints and plastic sprays:* The preceding comment as to the separate evaluation of resins and plasticizers applies to any surface coating aerosol. In addition, the pigment should be considered separately.

In paint removing or softening formulations, it may be necessary to use a solvent such as methylene chloride. In this application, large areas may be treated, or the entire contents of a can used at one time. A recommendation for use with adequate ventilation would be in order for this type of product.

*Special preparations:* Two classes of special preparations, aerosol shave formulations and artificial snow, illustrate a desirable safety situation with aerosol products. Shave preparations are available that are essentially non-irritating, or no more so than soap products applied to the skin with a brush or with the fingers, hence convenience is gained without introducing a toxic hazard. Snow, usually acrylate or ethyl cellulose, can be formulated so as virtually to eliminate hazard in use, as should be the case with any preparation intended for ornamentation—as distinct from one intended for preservation, where some known degree of hazard may be tolerated.

*Oil-containing materials:* The fact that a product has been in regular use in liquid or other form does not assure its safety in aerosol form, even with relatively safe solvents and propellents. For the aerosol application, it is necessary to appraise the inhalation hazard not present in normal use. This may be essentially a physical although potentially dangerous effect. Even

an otherwise innocuous white oil may present a hazard if inhaled as fine particles, due to the possibility of lipid pneumonia. With such materials, particle size should be measured and controlled, and kept as large as possible for the end use. Particles of about two microns are likely to lodge in the lungs. Larger particles, up to 20 microns, may cause irritation in the nasal area. Particles of 20 to 35 microns should be relatively non-irritating and this is the best size for residual sprays.

### General Recommendations

**I**N formulating a new aerosol product, it is usually advisable to limit the choice of components to the known safe propellents, to solvents with a low order of toxicity, and to active ingredients on which toxicity information is available. This can be accomplished most easily by using minor variations of established formulae. For special applications, however, there may be no existing prototype, in which event sufficient toxicity testing should be undertaken to assure comparative safety of the formula, prior to test marketing, and to draft any caution or warning statements that may be indicated—or required by law.

### Useful References

**T**HE following will be found useful for the general appraisal of many propellents, solvents and many ingredients, as to toxicological or pharmacological effects:

Jacobs, M. B., *The Analytical Chemistry of Industrial Poisons, Hazards, and Solvents*, Second Edition, Interscience Publishers, Inc., New York, 1949.

*Threshold Limit Values for 1954, A. M. A. Archives of Industrial Hygiene and Occupational Medicine*, Vol. 9, June, 1954, pp. 530-534.

Sollmann, Torald, *A Manual of Pharmacology and its Applications to Therapeutics and Toxicology* Seventh Edition, W. B. Saunders Company, Philadelphia, 1948.

Schwartz, Louis; Tulipan, Louis; Peck, Samuel M., *Occupational Diseases of the Skin*, Second Edition, Lea & Febiger, Philadelphia, 1947.



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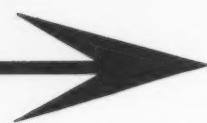
*SEE and TOUCH!*  
self-polishing floor wax  
with UBATOL®  
U-2001



The glowing area above was hand-swabbed on this page to bring you a sample of a typical floor wax formulation based upon UBATOL 2001.

This ultra-fine particle size, modified polystyrene emulsion may be exactly the element required to solve your floor wax problems of high gloss, toughness, abrasion resistance and removal by water.



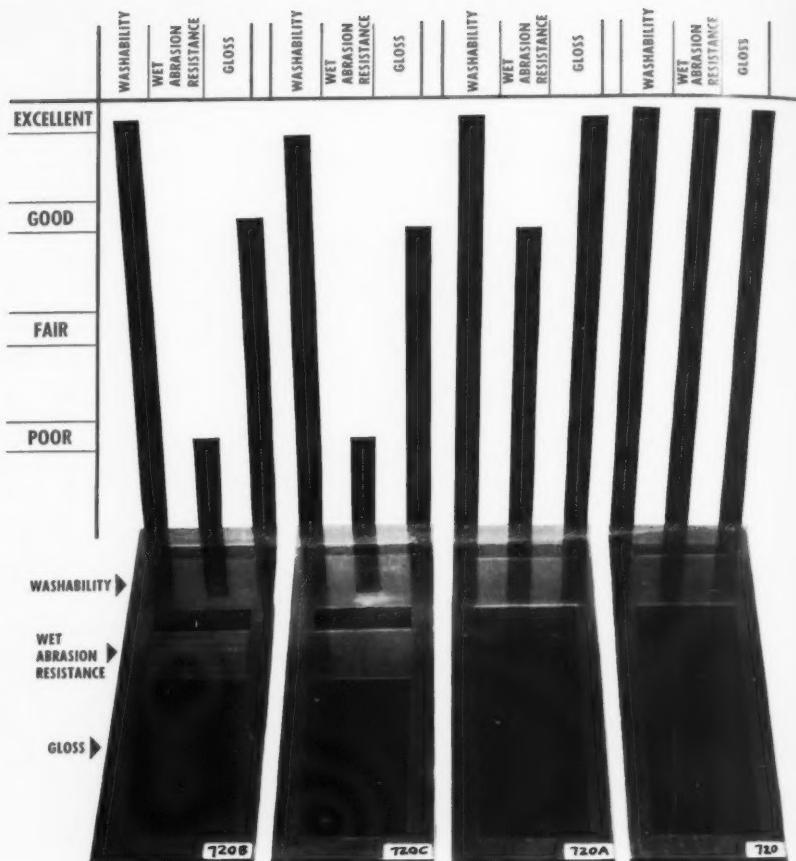


This unretouched photograph shows a direct comparison between wax formulations prepared with and without UBATOL U-2001 as a basic ingredient. Samples 720B and 720C are two popular brand name floor waxes not currently using UBATOL U-2001. Sample 720A is a currently marketed brand containing UBATOL U-2001, and 720 is a typical UBATOL U-2001 formulation made in the UBS laboratories. All samples were prepared on standard rubber tile test blocks under identical conditions.

The strip showing water washability shows substantially complete removal on surface film on all samples.

The strip showing wet abrasion resistance indicates clearly the exceptional toughness of the films formulated with U-2001 as a base.

Note the high and uniform gloss of the U-2001 based formulation.



#### UBATOL U-2001 presents no problems.

UBATOL U-2001 is compatible with a wide range of alkali soluble resins and waxes now being used by the floor wax industry.

UBATOL U-2001 is freeze-thaw resistant.

UBATOL U-2001 is readily handled in your existing processing equipment.

UBATOL U-2001 is chemically and mechanically stable.

UBATOL U-2001 provides better quality without increasing cost.

*Although UBS Laboratories do not undertake to develop specific formulations using UBS products, assistance will gladly be given to UBATOL U-2001 users, and suggestions and advice given in their specific requirements.*

#### U-2001 PHYSICAL PROPERTIES

|                           |   |
|---------------------------|---|
| Molecular Weight          | Greater than 150,000                            |
| Total solids              | 35-37%  |
| Specific gravity @ 25°C.  | 1.03  |
| Viscosity @ 25°C.         | 15-20 cps                                       |
| Weight per gallon         | 8.6 lbs.  |
| Dispersion system         | Anionic   |
| Particle size             | Less than 0.03 micron                           |
| Particle charge           | Negative  |
| pH                        | 8.7-9.3   |
| Dilution with water       | Infinite  |
| Residual monomer content  | Less than 0.1%                                  |
| Oxidation characteristics | None  |
| Mechanical stability      | Superior  |
| Film characteristics      | Not film forming<br>Requires added plasticizer. |

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Such experts are ready to serve you at Givaudan's special Aerosol Research Laboratory. Our staff will welcome the opportunity to recommend, adapt, or "custom-make" a fragrance for your aerosol product which will give distinctive sales appeal and the utmost satisfaction under the particular conditions governing its formulation and use. We invite your inquiries.



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# JANITOR SUPPLIES

SANITARY CHEMICALS JOHNSON'S WAX POLISHES

W. J. PATTEN CO.



Large display windows in triangular shape building in which W. J. Patten makes its headquarters are used to good

advantage by this sanitary supply distributor for his line, which includes paints, power mowers and garden supplies.

## A New Item on Every Call . . .

**S**ALEMEN of W. J. Patten Co., Perth Amboy, N. J., sanitary supply firm, show at least one new or different product each time they call on an industrial buyer. This sales policy has been found to maintain buyers' interest in the lines handled by Patten, as well as developing a more attentive attitude on the part of the buyer to what the salesman shows and discusses during the sales interview. The policy is paying off for Patten in increased sales volume.

"Industrial buyers are faced with the problem of meeting daily all kinds of salesmen to whom they can give only a limited amount of time", explains William J. Patten, partner in the Perth Amboy sanitary supply firm. "In order to attract and hold buyers' attention to build a possible sale, we feel we

**Policy of offering buyers something different each time they are called on by jobber's salesmen gets orders**

must present something novel or different in our initial contact. Once this is done, we can then swing into a discussion of the many other products we handle. Usually, we walk out with an order."

Perth Amboy is a very highly industrialized area. This makes it a fertile territory for the sale of sanitary supplies. In addition, the area offers a large and diversified institutional and school market for sanitary supplies and equipment.

**By Phil Lance**

Because of this, competition in the sale of sanitary supplies comes from sanitary suppliers outside of the immediate area of Perth Amboy. To meet this competition, Patten attempts first at attract the buyer's attention with the new or the novel, and then retain his attention while discussing other sanitary supplies the buyer is likely to use or need.

Also employed by Patten to attract attention is the discussion or demonstration of a product or line of products in which the buyer is particularly interested.

# Q

*what do these aerosols have in common?*



# A

QUALITY—FILLED by REGAL

Since 1943 Regal has pioneered in aerosols. Regal's production is governed by statistical quality control—guarantees uniform finished product. Regal packages these pressure-propelled products for the leaders: shave creams, shampoos, hand lotions, suntan lotions, hair-sprays, colognes, perfumes, deodorants, pharmaceuticals—room deodorants, insect sprays, moth sprays. Call or write for detailed information on the ABC's of Regal—Aerosols, Bottles, Containers.

REGAL CHEMICAL CORPORATION  
115 Dobbin St., Brooklyn 22, N. Y.



Because its location is something of a landmark, W. J. Patten Co. handles merchandise that appeals to the householder as well as the industrial consumer.

"During sales interviews our salesman makes notes of the needs and requirements of the buyer they are calling on. Immediately after the call, the salesman jots down the notes. On his next visit to the buyer he can look over these notes and from them determine what particular items to bring to the attention of the buyer. It may be a certain type of soap dispenser, cleaner, detergent, or floor machine. Whatever the item, we make it a point to begin our discussion about a product in which we know the buyer is interested. If our salesmen haven't noted any particular product as of outstanding interest to the buyer, they show him a new product. As long as our men can capture the buyer's attention, we feel that they are well on the way to a sale", Mr. Patten explains.

#### Demonstrations Pay

**D**EMONSTRATIONS help to make sales in nine out of 10 cases in the experience of the Patten company. Because buyers are busy people, Patten instructs its salesmen to limit these demonstrations to the shortest possible time. Only small areas are to be covered in showing products in action, and the demonstration should last only long enough to explain and show what the product will do. All Patten salesmen know that they are expected to demonstrate their items when-

ever possible, but to do so in the shortest possible time.

"A buyer should know that salesmen are interested in selling him the products he needs and that they won't take too much of his time to promote them", Mr. Patten stresses as important. "This helps to insure a friendly reception the next time the salesman calls on the buyer."

Station wagons are used by Patten's three salesmen in calling on buyers. These vehicles enable

As a hedge against seasonal sales let-downs, Patten has added a complete line of garden supplies and equipment, such as the power mower Mr. Patten demonstrates to customer.



the salesmen to carry samples of the entire Patten line. All items that require it are available for demonstration. Floor machines, naturally, are one of Patten's biggest demonstration lines. Patten salesmen do not usually carry them as part of the regular line. Salesmen for the firm promote the use of floor machines whenever they call on a buyer. When the salesman feels the buyer is interested he arranges for a demonstration.

The receptive customer—one who has been given time and facts to consider in buying a floor machine—is more likely to buy than the one who is forced to look at a machine without any advance notice and at a time not of his own choosing. Although this selling technique means that Patten salesmen show customers floor machines less frequently, it has resulted in a higher percentage of sales, according to W. J. Patten. "Past experience has taught us that customers will not buy unless they need or can be demonstrated the need for a certain item. You only antagonize them if you pressure them. We wait for the most opportune time to make a full scale demonstration", Mr. Patten reports.

Patten has found that the judicious use of promotional deals of specials makes real inducements to buy and has helped to build Patten's volume. Since everyone wants to take advantage of a good bargain or an outstanding buy, this sanitary supplier makes sure that his salesmen have at least one special or promotional deal to feature to the customer. As an example, Patten recently offered a sizable discount on a combination purchase of a floor machine and a drum of soap and a drum of wax. Patten feels that the reduction in price was more than made up for since those taking advantage of the offer also became regular buyers of the soap and wax. The firm has found that once a customer decides on a certain product and is satisfied with its performance, his repeat business can usually be anticipated.

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# ...about chemical specialties



## MODERN CHEMICAL SPECIALTIES

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THIS 514-page text covers the formulation, manufacture, and use of polishes, cleansers, detergents, floor-care, leather-care, and textile products, industrial, household, and many other allied chemical specialties. Each of the 42 chapters deals with a different specialty and includes formulas and manufacturing methods for that specialty. The manufacturer, marketer, chemist and production man will find this book of great value.

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A COMPLETELY revised 576 page book which includes: bacteria and disease, principles of disinfection, disinfectants (6 chapters), deodorants, man versus insects, household and industrial insecticides (9 chapters), rodenticides, floor waxes and floor care, sweeping compounds, potash soaps, detergents and cleansers (4 chapters), labeling and packaging, laws and regulations explained.

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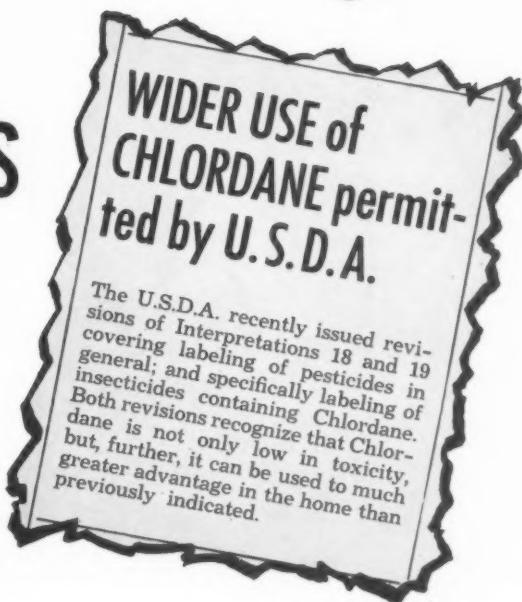
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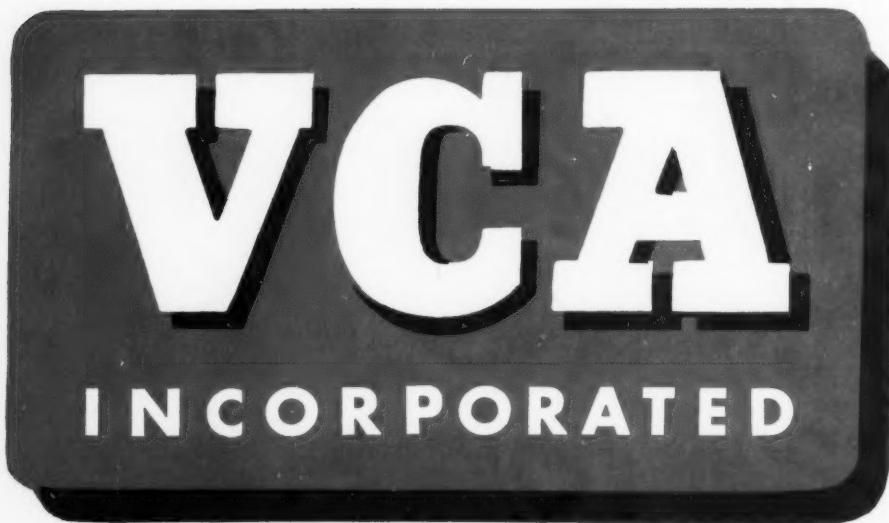
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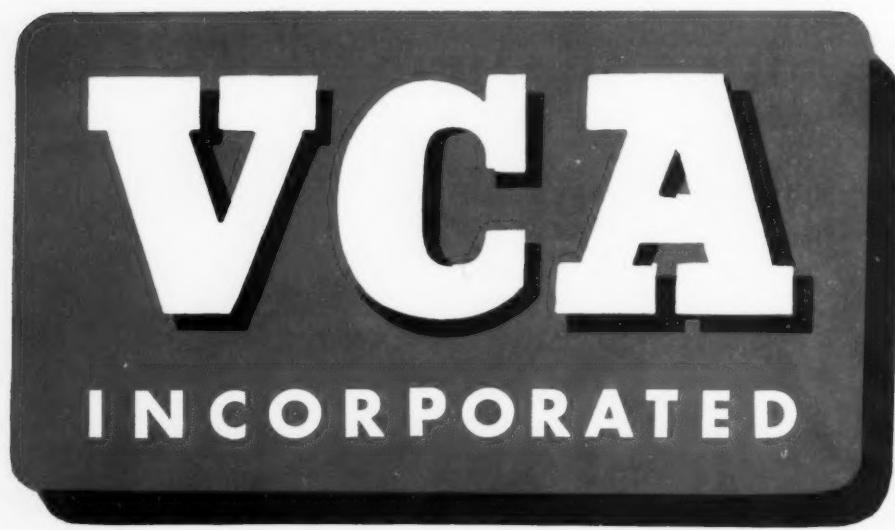
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Two sales-building actions —  
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- mask the odor of every basic material used in the manufacture of insecticides
- impart a pleasant, lasting fragrance which gives vigorous sales appeal to your product

THE repellent odor of an insecticide can kill a sale as easily as the product itself kills insects. MM&R research chemists, convinced that the odor of most insecticides is *unnecessarily* offensive to the user, have developed a series of specialty perfume oil-neutralizers which replace the odor of basic materials with pleasant sales-stimulating fragrances.

If your product contains a *combination* of toxic agents, MM&R chemists will recommend a perfume oil-neutralizer exactly suited to your formulation. Send us a sample of your insecticide today. Our chemists will send it back to you "perfume styled" for added sales appeal. No obligation, of course.

Neutralizers and deodorants by MM&R are also available *without* added perfume for use in food and milk processing plants, dairies, restaurant kitchens and wherever an un-perfumed insecticide is required.

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The showroom of W. J. Patten Co. gives the firm an opportunity to show as well as demonstrate its complete line.



To stress the completeness of its line for industrial maintenance, Patten handles fire extinguishers and light bulbs.

of every opportunity offered by manufacturers in order to be able to provide the customer with an additional buying inducement," Mr. Patten says. "At times, we work out our own inducements that help us to move certain stocks and, at the same time, to gain new customers."

"We are constantly checking our stock records. Whenever we notice items that are not moving, we employ inducement specials. These reduce heavy stocks and also stimulate sales opportunities."

To broaden its sales opportunities, as well as attempting to develop its business as a one-stop buying center, W. J. Patten Co. has expanded and diversified its line.

### Sell Garden Supplies

"**A**s a hedge against seasonal let-downs in sales, we have added a complete line of garden and lawn supplies and equipment," W. J. Patten explains. In addition the firm stocks a full line of industrial and floor paints. In selling schools, for example, Patten found that they use very few maintenance supplies during the summer season. To offset this, Patten sells grass seed, fertilizer, garden tools and related implements to maintain the grounds.

W. J. Patten Co. sold over six carloads of fertilizer alone in the first season it stocked garden supplies as an adjunct to its regular line of sanitary supplies. Not only was fertilizer purchased by schools

and other institutions, but large industrial firms bought it when they learned it was being sold by their regular sanitary supply salesmen.

"We handle only nationally recognized brands of garden and lawn supplies," says Mr. Patten, so that our customers know that we sell only the best. Also, we feel that nationally advertised products are practically half sold, and therefore we stock them as much as possible. We encounter less sales resistance in selling nationally advertised products."

Timing is important in promoting garden supplies. Patten begins its promotion of these items around the first of the year so that orders can be placed for early spring delivery. Customers are reminded of these items during the balance of the season by folders and other literature distributed by salesmen.

"We have been doing a splendid job of selling power mowers, too," Mr. Patten points out. "We find a salesman demonstrates and sells a power lawn mower just as easily as a floor machine. When the buyer is interested in buying a mower the salesman determines the size and type machine best suited for his needs. This is done by checking the grounds or discussing their upkeep with the person in charge of lawn care."

A variety of paints for use on floors or covering or highlighting moving parts of industrial machinery are also part of the diversified

line of W. J. Patten Co. This company has added to its total sales volume by stocking paints, which almost every industrial, school and other institutional customer uses.

"Since our salesmen already are calling on buyers of maintenance materials, we feel that allied lines such as paints and garden supplies can be sold at the same time. This increases our volume and reduces the amount of time the buyer must spend with salesmen, since the number of sales interviews can be reduced in this way," explains Mr. Patten. If the customer is pleased with the products and services now being offered by the sanitary supply jobber, it is reasonable to suppose that related or allied lines could be supplied on the same satisfactory basis. Our sales have shown this to be a fact," Mr. Patten states.

Sometimes, the customers themselves suggest items with which Patten Co. can supply them. Recently an industrial buyer asked a Patten salesman if his firm sold air conditioning units. The firm doesn't, but did acquire 17 units for the customer. By questioning other accounts, it was found that a market exists among Patten customers for room-size air conditioners, which this jobber expects to add to his line this year.

W. J. Patten Co. handles a complete line of nationally advertised products. Some are stocked and sold under their own label. All merchandise is stocked by product

(Turn to Page 217)



## MASTER KEY to sales appeals for no-rub liquid polishes

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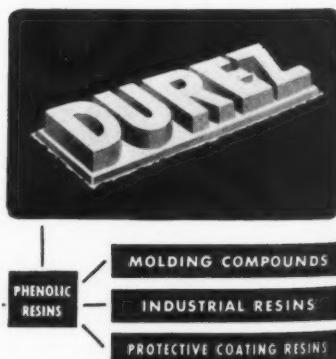
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**LOW MELT.** For the convenience of manufacturers using steam-jacketed kettles, Durez resins of the high melt types are furnished in modified form with a melting point suitable for this type of equipment. These resins — Durez 13560 and Durez 14140 — melt at approximately 60° C.



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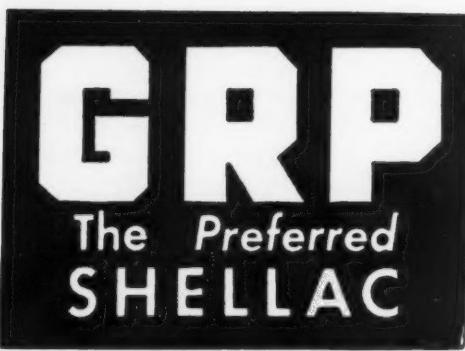


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# AEROSOL PATENT DECISION

Part II

## Complete text of decision covering unfair competition phase in Carter suit over "Rise" aerosol shave patent

LAST month we published the full text of Judge Coleman's decision upholding the validity of the so-called "Rise" patent on aerosol shave cream in the case of Carter Products, Inc., New York vs. Colgate-Palmolive Co., Jersey City, N. J. and others. In this issue we are publishing the portion of the decision pertaining to unfair competition. Both infringement of the patent and the unfair competition charges were tried at the same time during the eight weeks trial in the U. S. Federal District Court in Baltimore. Preceding the judge's decision is a summary of the points raised by the defendant and the judge's ruling on them.

Because of the widespread interest in this case and its far-reaching implications not only for the fast growing aerosol industry but the chemical specialties manufacturing industry as a whole, we

feel it is important to bring our readers the complete decision of Judge Coleman. Ed.

### UNFAIR COMPETITION

#### 13. Jurisdiction of courts—Joinder of causes of action and parties—Patent and other issues (§43-355)

##### Pleading and practice in courts—State law considered (§53.73)

Federal court has jurisdiction under 28 U.S.C. 1338(b) of cause of action for misappropriation of trade secrets relating to subject matter of patent since such cause of action is joined with cause of action for infringement of patent; in determining whether defendant wrongfully appropriated such secrets, court is not limited to consideration of law of locus of alleged wrongful appropriation, or of law of any other particular jurisdiction.

#### 14. Trade secrets—in general (§68-901)

Defendant contends that none of its employee's knowledge acquired while employed by plaintiff constituted trade secrets because information already was well known in the trade; contention is inconsistent with defendant's

filing of patent applications covering such subject matter.

#### 15. Trade secrets—Disclosure by employees (§68.905)

In order for defendant to be liable for use of plaintiff's trade secrets, it is not necessary that it be found that defendant employed plaintiff's former employee for specific purpose of having him divulge confidential information; defendant is liable since it knew, or must have known by exercise of fair business principles, that precise character of employee's work with plaintiff was, in all likelihood, covered by agreement which employee had with plaintiff not to divulge trade secrets.

#### 16. Trade secrets—freed by patent issue or publication (§68.911)

Contract binding employee to secrecy imposes secrecy only until issuance of patent involved.

#### 17. Trade secrets—Parties bound (§ 68.913)

Third party who uses another's trade secrets, which have been obtained through breach of confidential relationship, either with actual knowledge of such breach or of facts from which knowledge of it is reasonably to be inferred, is liable equally with the one who makes the breach.

### ALLEGED WRONGFUL APPROPRIATION OF CONFIDENTIAL INFORMATION AND TRADE SECRETS

[13] Turning to the second cause of action, namely, that based upon the alleged wrongful appropriation of trade secrets by Colgate, Carter asserts that Colgate wrongfully appropriated trade secrets relating to the composition of "Rise". This Court has jurisdiction of this cause of action by reason of Section 1338(b) of Title 28 U.S.C.A., which vests in the District Courts "original jurisdiction of any civil action asserting a claim of unfair competition when joined with a substantial and related claim under \*\*\* patent \*\*\* laws". In the present case the claim of unfair competition is directly joined with the claim of infringement of the Spitzer patent. So, in determining the question whether Colgate has wrongfully appropriated any of Carter's trade secrets relating to the subject matter of the Spitzer patent, this Court is not limited to a consideration of the law of the locus of the alleged wrongful appropriation, or of the law of any other particular jurisdiction. As a matter of fact, as will be disclosed by the analysis of decisions about to be made, there is virtual uniformity in the decisions as to the principles of law governing this question.

The contentions of Carter may be summarized as follows: that Norman Fine, a former employee of Foster D. Snell, Inc., research chemists employed by Carter, left his employment where he participated in the development of "Rise" and went to work for the defendant Colgate; that he was under contractual obligation to Snell not to disclose trade secrets that he had learned during the course of his employment at Snell's; that, in spite of his obligation to maintain this confidential relationship, Fine revealed to Colgate, less than two months after he began his work with Colgate, the exact formula of the composition of "Rise"; that he combined at

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Colgate one-half of "Rise" with one-half of the composition that had been formulated by Allen, a co-worker at Colgate; that the resulting product eliminated the problems encountered by Colgate prior to Fine's arrival at Colgate, and that this product was marketed by Colgate as Rapid-Shave No. 1.

Carter further contends that Fine proceeded to alter Rapid-Shave No. 1 so as to make it more nearly duplicate "Rise" by eliminating the sodium and potassium soaps which were in Allen's composition, and by duplicating the 8 percent triethanolamine stearate of "Rise"; that, at the same time, Fine made certain additions to this second product that were calculated to improve the characteristics of the lather, Fine having previously learned from his development work on "Rise" at Snell's that those additions would impart the desired characteristics to the lather; that, in spite of the fact that Fine, under his contract with Snell, had been enjoined to strict secrecy at Snell's, he disclosed these matters to his new employer, Colgate; that Fine compounded for Colgate Rapid-Shave No. 2, a product that was a closer duplicate of "Rise" than Rapid-Shave No. 1, and that, in addition, Fine, through Colgate's patent counsel, proceeded to file patent applications on these trade secrets, which are still pending.

Carter still further contends that Fine had learned during the course of his development work on "Rise" at Snell's that a light mineral oil could be successfully used with certain soaps without producing an adverse effect upon the quality of the lather, and yet at the same time operate as a sufficient depressant of the propellant to permit the use of Freon 12 alone; that the elimination of Freon 114, which was an expensive item, would thus result in a more economical product, yet possessing the characteristics of the more expensive one; that Fine disclosed this trade secret to Colgate; that Colgate proceeded to utilize this valuable information by developing and putting Instant Barber Shave on the market, in spite of the fact that Fine had told Colgate's patent counsel that he had worked on this precise disclosure at Snell's, while developing "Rise".

[14] Colgate, on the other hand, contends that none of Fine's knowledge acquired at Snell's which he disclosed to Colgate constituted trade secrets because the information was already well known in the trade, and had been available to the public since April, 1950, when "Rise" was put on the market. However, Colgate saw fit to file two patent applications based on this information, prior to Carter's institution of the present suit. Thus, the contention that this information was previously known in the trade is clearly inconsistent with Colgate's filing these two applications, covering the same subject matter.

Carter maintains that since there is an abundance of other evidence in the present case of novelty of the information disclosed to Colgate by Fine which is adequate to support patentability, a fortiori, it is adequate to constitute a trade secret, since novelty required for the latter is less than that required for patentability.

Carter further contends that Fine did not restrict his breach of confidence to the area of formulating the composition contained in the can; that Colgate,

in its efforts to duplicate "Rise", encountered the problem of how to overcome the splitting of the polyethylene dip tube, for which no solution was known to Colgate before Fine came to Colgate, but that Fine again drew upon his store of Carter's trade secrets and presented to Colgate the idea of annealing the dip-tube, which was used by Colgate in marketing Rapid-Shave No. 1.

We find to be correct, by the weight of the credible evidence, the following chronology of what occurred from the beginning of the development of "Rise" to the institution of the present suit: March, 1949: Spitzer, Rech and Fine began their research and development work. April, 1950: Carter put "Rise" on the market. May and July, 1950: Colgate analyzed "Rise", and endeavored, unsuccessfully, to duplicate it, although claiming that the "Rise" formula had been completely reproduced but was not found satisfactory, particularly because it did not result in sufficient exhaustion of the product from the can. Also, Colgate was troubled with sputtering of the product. September, 1950: Fine entered the employment of Colgate although he had been a co-inventor of "Rise". October, 1950: Fine revealed to Colgate the causes of the sputtering. November, 1950: Fine disclosed to Colgate the precise formula of "Rise", and also combined that formula with diluted Colgate lather, to make Rapid-Shave No. 1. Further, he disclosed to Colgate, and to the latter's supplier of valves, the siphon tube annealing process employed by Carter for "Rise". August, 1951: Colgate filed in Fine's name a patent application covering the formula of Rapid-Shave No. 1, which embodied his work originally done on "Rise". November, 1951: Fine prepared, and disclosed to Hansen, his assistant at Colgate, a duplicate formula for "Rise", superfatted, i.e., with excess of fatty matter (soap). September, 1952, until February, 1953: Colgate pursued its experimentation in superfatting the "Rise" formula with petrolatum, carbowax and excess stearic acid, and then marketed its Rapid-Shave No. 2. September, 1953: Colgate filed its second patent application in the name of Fine and associates, based on the development work that Fine had done while employed by Snell. October 13, 1953: the Spitzer ("Rise") patent was issued and the present suit was instituted the same day.

From the foregoing the Court believes that only one conclusion is justified, namely, that Carter has met the burden of proof which rests upon it that the information disclosed to it by Fine, as hereinbefore set forth in summary, amounted to wrongful appropriation of secret, confidential information, acquired

[15] by Fine while at Snell's. True, there is no evidence that Colgate induced Fine to come to them. But it is not necessary to, nor do we find that Colgate's employment of Fine was originally arranged for the specific purpose of having him divulge confidential information about the "Rise" patent that he had acquired at Snell's. The basis of our decision that Colgate knew, or must have known by the exercise of fair business principles, that the precise character of Fine's work with Snell was, in all likelihood, covered by the agreement which Fine had with Snell not to divulge trade secrets, and that, therefore, Colgate was obligated to do more than it

did towards ascertaining the extent to which Fine was, in fact, restricted in what he might disclose to Colgate. That it was wrong for Colgate not to go further than it did in this respect as confirmed by the very status of Fine when he came to Colgate. At that time Fine was a joint inventor and patentee of "Rise". In other words, Fine was willing to be, and was knowingly placed by Colgate in work that was in direct competition with the work in which Fine had shared at Snell's resulting ultimately in his own patent. The very fact that Fine would do this should, per se, have raised in the minds of the representatives of Colgate, who arranged the employment of Fine, a feeling that he was entering upon a rather strange employment under the circumstances. It therefore, was not enough for Colgate to say they would see that Fine lived up to the limitations imposed by his contract with Snell. The weight of the credible evidence discloses that Colgate was far from being sufficiently avid to ascertain what those limitations really were, and to have Fine live up to them.

In *E. I. DuPont de Nemours Powder Co. v. Masland*, 244 U.S. 100, the Supreme Court said (p. 102): "The word property as applied to trade marks and trade secrets is an unanalyzed expression of certain secondary consequences of the primary fact that the law makes some rudimentary requirements of good faith. Whether the plaintiffs have any valuable secret or not the defendant knows the facts, whatever they are, through a special confidence that he accepted. The property may be denied but the confidence cannot be. Therefore the starting point for the present matter is not property or due process of law, but that the defendant stood in confidential relations with the plaintiffs, or one of them. These have given place to hostility, and the first thing to be made sure of is that the defendant shall not fraudulently abuse the trust reposed in him. It is the usual incident of confidential relations. If there is any disadvantage in the fact that he knew the plaintiffs' secrets he must take the burden with the good."

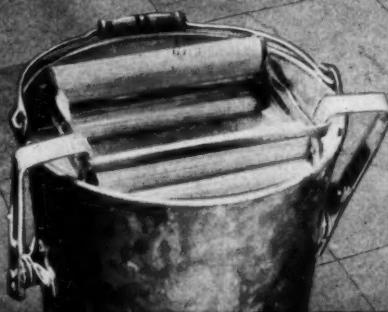
In *A. O. Smith Corporation v. Petroleum Iron Works Co., of Ohio*, 73 F.2d 531, 24 USPQ 183, in an action for patent infringement and also for damages for appropriation of secret processes in connection with welding that was useful in fabrication of stills employed in refining crude oils, the Court said (73 F.2d 531, at 538-9, 24 USPQ 183, 189-190):

"The mere fact that the means by which a discovery is made are obvious, that experimentation which leads from known factors to an ascertainable but presently unknown result may be simple, we think cannot destroy the value of the discovery to one who makes it, or advantage the competitor who by unfair means, or as the beneficiary of a broken faith, obtains the desired knowledge without himself paying the price in labor, money, or machines expended by the discoverer. Facts of great value may, like the lost purse upon the highway, lie long unnoticed upon the public commons. Hundreds pass them by, till one more observant than the rest makes discovery. It is idle to say that, in the eyes of the law, interest may not in such case follow discernment. We think the court below was right in rejecting the master's application of the law in respect to

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those secret processes held by the master to be invalid for the reason that they were in the public domain, or within the reach of the skilled mechanic in the trade.

\* \* \* The defendant had sought in many ways to obtain the knowledge necessary to enable it to compete successfully with the plaintiff in the making of pressure vessels. It finally engaged Hawthorne, who for many years had been employed in the plaintiff's welding department, and who was under express contract not to divulge any information received by him during his confidential relationship to the plaintiff. The conclusion is inescapable that the defendant knew of Hawthorne's employment in a confidential capacity. Shanor, its superintendent, had been denied access to the plaintiff's welding shop, though shown its other activities. The infringement of the secret processes followed Hawthorne's engagement with the defendant. Hawthorne had represented to the defendant that electric welding was more highly developed, more economically done, and on heavier products by the plaintiff than by others. The defendant largely increased his salary over that paid by its predecessor. Hawthorne's own estimate of the value of plaintiff's secrets and their cost of acquisition are revealed in his address to the National Board of Welding Engineers after he joined the defendant's organization, and the extensive advertising by the defendant of the novelty of its Fluid-Fusion welding process is further corroboration both of the value of the secret processes, their recent discovery, and the fact that they did not lie exposed in the public domain."

In Schreyer v. Casco Products Corp., 190 F.2d 921, 90 USPQ 271, the appellate court affirmed the lower court's judgment on the cause of action for unfair competition, although reversed the lower court's finding that the patent involved, which was for an electric steam iron, was invalid. The Court said (190 F.2d at 924, 90 USPQ at 274): "The information confidentially obtained and used during 1948 was substantially disclosed by the issuance of the patent on July 5, 1949, and the use of that source of information would not, apart from the risk of infringement, have been wrongful. Conmar Products Corp. v. Universal Slide Fastener Co., 2 Cir., 172 F.2d 150, 80 USPQ 108. Nevertheless, the trial court found that the use of the confidential disclosures enabled the defendant to produce and market its iron at an earlier date than would have been possible had it relied upon independent research into the construction of the plaintiff's iron then on the market or upon the patent. It accordingly ordered an accounting of the profits resulting from the acceleration of the date when production was possible."

[16] In Conmar Products Corporation v. Universal Slide Fastener Co., 172 F.2d 150, 80 USPQ 108, cited in the quotation just made from the opinion in the Schreyer decision, it was held by the Second Circuit Court of Appeals that a contract binding an employee to secrecy, imposed secrecy only until the issue of the patent involved. See also Picard v. United Aircraft Corporation, 128 F.2d 632, 53 USPQ 563; Pennington Engineering Co. v. Houde Engineer-

ing Corporation, 136 F.2d 210, 57 USPQ 422. However, in the Sixth and Seventh Circuits, it has been held otherwise. See Shellmar Products Co. v. Allen-Quallie Co., 87 F.2d 104, 32 USPQ 24, and A. O. Smith Corporation v. Petroleum Iron Works Co. of Ohio, 74 F.2d 934, 25 USPQ 29. We believe that the rule followed in the Second Circuit is the correct one, and this is conceded on behalf of Carter in the present case.

In Vulcan Detinning Company v. American Can Company, 72 N.J. Eq. 387, the Court said (pp. 398-401):

"It is all but impossible to demonstrate, by direct proof, that a corporation has knowledge apart from the knowledge possessed by the agencies through which its functions are performed; hence, the mere fact that the complainant is unable to adduce any corporate resolution of the defendant expressly asserting its knowledge of the complainant's secret and of Assmann's connection therewith does not prevent our reaching the conclusion that the defendant had such knowledge, if such is the inference to which the testimony, by irresistible weight of probability tends. \* \* \*

"By force of this rule and of the reasoning upon which it rests, the American Can Company is chargeable with the knowledge possessed by Assmann only in case the principal, that is, the Can company, if acting for itself in the acquisition of the complainant's process, or (being a corporation) if acting through some other agent, would have received notice of the material matters known to Assmann. In applying this rule we think it is reasonably certain that if the board of directors of the American Can Company, when they contemplated going into competition with the complainant in the detinning business, by use of its process, has set about the acquisition of a practical knowledge of the construction and working details of such process, either as a board of directors or by the employment of agents not already possessed of such knowledge, they must inevitably have run up against the barrier of secrecy maintained by the complainant for the express purpose of heading off such competition. In that case they would either have failed to obtain the secret of the complainant's process except with its knowledge and consent, or if they did obtain it clandestinely from someone who held it in confidence, would have done so under circumstances that would have put them upon inquiry, and hence, have charged their corporation with whatever knowledge such inquiry would have led to. This is the test established by the case of State v. Sooy (as applied to a corporation) and the conclusion to which it leads is that the defendant corporation holds the fruits of Assmann's agency in its behalf, with the burden of so much of the knowledge possessed by him as would have come to it if it had acted for itself or through an agent who was not already possessed of such knowledge."

The decisions upon which Colgate relies are not believed to be opposed to the principles laid down in the decisions which we have analyzed and which represent the weight of authority, because it is clear that those other deci-

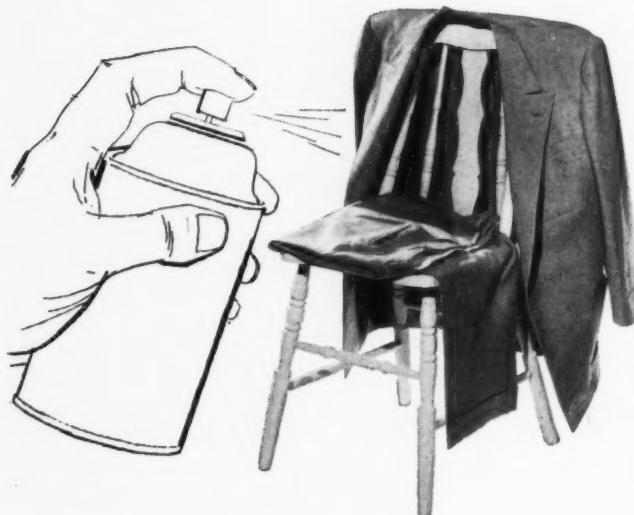
sions embrace facts quite distinct from the facts in the present case. This is true, for example, of Telechron Inc. v. Parissi, 120 F.Supp. 235, 101 USPQ 144, and also of Lyon v. Bausch & Lomb Optical Co., 119 F.Supp. 42, 100 USPQ 100. In the first of these cases, the Court, after a lengthy detailed analysis of the facts, held that the evidence was insufficient to sustain the patentee's counterclaim that the corporation by which the patentee had been employed, and its subsidiary corporation, by their manufacture and sale of flashing light alarm clocks, etc., wrongfully appropriated and used certain concrete information and ideas relative to inventions set forth in the patents, and which had been disclosed to the corporations in confidence prior to filing and issuance of the patents, but that on the contrary the evidence strongly indicated independent development. The Court said, 120 F.Supp. 235, at 240, 101 USPQ 144, 148-149: "Therefore, Parissi does not shoulder in my judgment the serious burden imposed upon him by law, or by even a fair preponderance of the evidence prove the elements necessary to support his counterclaim of unjust enrichment through violation of confidential disclosures. Many of the elements necessary to such recovery under the law are not shown clearly and sufficiently to carry conviction. The essentials of knowledge, confidence, understanding, express or implied, of compensations, novelty, secrecy; the combination of which constitutes the fraud and breach of faith, in my judgement is not sufficiently proven."

The second, the Lyons case, involved a patent on a method for applying hard, durable, low-reflecting films of inorganic salts on the surfaces of optical elements. In addition to patent infringement, plaintiff, asserted a secondary cause of action for unjust enrichment by defendant optical company's alleged wrongful use of confidential information, given the company by the plaintiff as to the patented process. But the Court said, 119 F.Supp. 42, at 52, 100 USPQ 100, 108: "Defendant's use of the process in its non-governmental work commenced at about the time that the plaintiff wrote the defendant calling its attention to the fact that he had received a patent. From the time of the issuance of the patent the information regarding the process was public knowledge. Therefore the use by the defendant of the process after the issuance of the patent was not wrongful, apart from the risk of infringement. Schreyer v. Casco Products Corp., 2 Cir., 190 F.2d 921, 90 USPQ 271, 274, 924. It is true that the defendant became skilled in the operation of plaintiff's process prior to the grant of the patent, and that this circumstance gave the defendant the advantage of being able to commence promptly to use the process on its non-governmental work. This advantage, however, so acquired was an unavoidable incident to the lawful use of the process by the defendant in performing its government contracts for the manufacture of the optics for the Navy. Since there was no lawful use of the process prior to the issuance of the patent, the defendant may not be held to have been unjustly enriched by making use of confidential disclosures regarding the process." (Emphasis supplied).

In Tabor v. Hoffman, 118 N. Y.

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# STROBANE

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30, the Court said (pp. 34-37):

"It is conceded by the appellant that, independent of copyright or letters patent, an inventor or author, has, by the common law, an exclusive property in his invention or composition, until by publication it becomes the property of the general public. \* \* \*

"As the plaintiff had placed the perfected pump upon the market, without obtaining the protection of the patent laws, he thereby published that invention to the world and no longer had any exclusive property therein. (Rees v. Peltzer, 75 Ill. 475; Clemens v. Bellford, 14 F. 728; Short's Laws of Literature, 48).

"But the completed pump was not his only invention, for he had also discovered means, or machines in the form of patterns, which greatly aided, if they were not indispensable, in the manufacture of the pumps. This discovery he had not intentionally published, but had kept it secret, unless by disclosing the invention of the pump, he had also disclosed the invention of the patterns by which the pump was made. The precise question, therefore, presented by this appeal, as it appears to us, in whether there is a secret in the patterns that yet remains a secret, although the pump has been given to the world? The pump consists of many different pieces, the most of which are made by running melted brass or iron in the mold. The mold is formed by the use of patterns, which exceed in number the separate parts of the pump, as some of them are divided into several sections. The different pieces out of which the pump is made are not of the same size as the corresponding patterns, owing to the shrinkage of the metal in cooling. In constructing patterns, it is necessary to make allowances, not only for the shrinkage, which is greater in brass than in iron, but also for the expansion of the completed casting under different conditions of heat and cold, so that the different parts of the pump will properly fit together and adapt themselves by nicely balanced expansion and contraction to pumping either hot or cold liquids. If the patterns were of the same size as the corresponding portions of the pump, the castings made therefrom would neither fit together, nor if fitted, work properly when pumping fluids varying in temperature. The size of the patterns cannot be discovered by merely using the different sections of the pump, but various changes must be made and those changes can only be ascertained by a series of experiments, involving the expenditure of both time and money. Are not the size and shape of the patterns, therefore, a secret which the plaintiff has not published and in which he still has exclusive property? Can it be truthfully said that this secret can be learned from the pump when experiments must be added to what can be learned from the pump before a pattern of the proper size can be made? As more could be learned by measuring the patterns, than could be learned by measuring the component parts of the pump, was there not a secret that belonged to the discoverer, until he abandoned it by publication, or it was fairly discovered by another?

"If a valuable medicine, not protected by patent, is put upon the market, anyone may, if he can by chemical analysis and a series of experiments,

or by any other use of the medicine itself aided by his own resources only, discover the ingredients and their proportions. If he thus finds out the secret of the proprietor, he may use it to any extent that he desires without danger of interference by the courts. But, because this discovery may be possible by fair means, it would not justify a discovery by unfair means, such as the bribery of a clerk who in course of his employment had aided in compounding the medicine, and had thus become familiar with the formula." \* \* \*

"The fact that one secret can be discovered more easily than another, does not affect the principle. Even if resort to the patterns of the plaintiff was more of a convenience than a necessity, still if there was a secret, it belonged to him, and the defendant had no right to obtain it by unfair means, or to use it after it was thus obtained. We think that the patterns were a secret device that was not disclosed by the publication of the pump, and that the plaintiff was entitled to the preventive remedies of the court. While the defendant could lawfully copy the pump, because it had been published to the world, he could not lawfully copy the patterns because they had not been published, but were still, in every sense, the property of the plaintiff, who owned not only the material substance, but also the discovery which they embodied."

In Fairchild Engine & Aeroplane Corporation v. Cox, 50 N. Y. S.2d 643, 62 USPQ 98, the Court granted an injunction against disclosure by the defendant of a process for the bonding of aluminum to steel, known as the Al-Fin process applied to aircraft engine cylinders, which the defendant had learned confidentially while serving in a fiduciary capacity as vice-president and director of the Fairchild Corporation and an affiliate company. Thereafter the defendant became associated with General Bronze Corporation in such manner that the confidential knowledge of this process was to be utilized for the benefit of this latter company, in return for which the defendant was to receive royalties and other substantial compensation.

In the course of its opinion, in which the Court relied upon a number of the cases which have just been analyzed, the Court said (pp. 656-67, 62 USPQ at 105-106):

"Of course if what the defendant threatens to reveal to General Bronze is generally known, he cannot be stopped. But to get on the track of patentability is to get on the wrong track. What these plaintiffs seek is protection of a trade secret. A trade secret need not be patentable. Unless this cardinal distinction is kept clearly in mind the transcendent issue which this case presents is likely to become blurred beyond recognition. The doctrine of 'prior art,' which the defendant invokes as a shield, is of vital importance in patent cases, but is not so significant in this case. \* \* \*

"The defendant's reply that what he proposed to do does not concern a 'secret,' is contradicted by his own conduct and words. From the mass of testimony the transcendent fact emerges that the plaintiffs' process succeeded where others failed. No one else achieved the practical results that plaintiffs achieved. To retort that others might or could have done it, or were on the same

track, does not alter or weaken the fact that the plaintiffs did do it. The plaintiff's process 'clicked.' And if outsiders knew the 'trick,' why didn't General Bronze engage them? Why not Gay—a licensed engineer, and who affirms that with appropriate backing and facilities he could have accomplished the same result? Gay could have been engaged for substantially less money than Cox—a non-engineer—was to receive. And what of the other experts who testified for the defense regarding their familiarity with the subject? The suspicion is more than faint that Cox knew the trick and it was the trick that General Bronze desired."

In the American Law Institute Restatement of the Law of Agency, Section 396, the law with respect to using confidential information after termination of an agency is thus stated: "Unless otherwise agreed, after the termination of the agency, the agent: (a) has no duty not to compete with the principal; and (b) is subject to a duty to the principal not to use or disclose to third persons, on his own account or on account of others, in competition with the principal or to his injury, trade secrets, written lists of names, or other similar confidential matters given to him only for the principal's use or acquired by the agent in violation of duty. The agent may use general information concerning the method of business of the principal and the names of the customers retained in his memory, if not acquired in violation of his duty as agent." Also, in the Restatement of the Law of Torts, the general principles governing liability for disclosure or use of another's trade secret are thus set forth, Section 757: "One who discloses or uses another's trade secret, without a privilege to do so, is liable to the other if (a) he discovered the secret by improper means, or (b) his disclosure or use constitutes a breach of confidence reposed in him by the other in disclosing the secret to him, or (c) he learned the secret from a third person with notice of the fact that it was a secret and that the third person discovered it by improper means or that the third person's disclosure of it was otherwise a breach of his duty to the other, or (d) he learned the secret with notice of the fact that it was a secret and that its disclosure was made to him by mistake."

Even if the Rise formula itself be treated as public knowledge, still Fine disclosed to Colgate a whole series of experiments that he had conducted at Snell's which taught Colgate the "know-how" necessary to produce Rapid-Shave No. 1, i.e., the use of the triethanolamine soap of Rise in combination with potassium and sodium soaps. Similarly, a comparison of what is disclosed by the laboratory note-books covering what Fine did at Snell's, with the note-books covering what he did at Colgate's which led to the production of Rapid Shave No. 2 and Barber Shave, shows that the work was identical. It is to be noted also that Fine appears as a co-inventor in the Colgate application for a patent for Rapid Shave No. 2. Counsel for Colgate admitted that Rise was first actually reproduced for Colgate by Fine, in November, 1950, that is, after he had been at Colgate's for a number of weeks. However, even assuming—although it is

(Turn to Page 215)

AEROSOLS • ADHESIVES • CLEANING FLUIDS • DETERGENTS  
 DISINFECTANTS • DRAWING COMPOUNDS (For Metal Work)  
 EMBALMERS' SUPPLIES • FORMALDEHYDE • FLOOR COVERINGS  
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 GERMICIDES • GLASS CLEANERS • GLUES and PASTE  
 HOSPITAL DEODORANTS • HOUSEHOLD SPRAYS • INSECTICIDES  
 JANITORS' SUPPLIES • KENNEL SPRAYS • LACQUERS and PAINTS  
 LATEX • LINOLEUM • METAL CLEANING COMPOUNDS  
 NEOPRENE • PAPER PRODUCTS • PARABLOKS  
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day period. They are weighed and tested periodically to determine proper evaporation rates and odor constancy.

## ODOR can be the decisive SALES FACTOR

**F**ROM a marketing standpoint the non-personal soaps and sanitary products used in homes and institutions are in much the same position today as their spruced up cousins, toilet soaps and cosmetics: they are all functionally excellent, and they are competing against each other in a saturated market. Most sales managers do not view such a position with any degree of enthusiasm. Where one product is about as good as another, the buyer's choice is frequently made on

the basis of price alone; and where there are no new markets to exploit, this price-conscious buyer sets the direction of the manufacturer's sales curve.

There is, however, a sound way to combat the price argument

**By Raoul Pantaleoni**

Director, Industrial Division,  
van Ameringer-Haebler, Inc.

so often raised when the quality of competing articles is not significantly different: it is to emphasize the non-functional differences between them. By this is meant differences which do not necessarily have anything to do with the utility of the product, but which may nevertheless make it more pleasant (or less unpleasant) to use. For example, two insecticides may have equal knock-down and kill power, but if one of them is characterized by a thoroughly offensive odor while

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Max Feinsilver of the Vandor Industrial Laboratories of van Ameringen-Haebler, Inc., tests floor waxes to which odor control materials have been added.

the other is lightly but pleasantly scented, sales will quickly gravitate to the one that is more pleasant to use. Thus, in non-personal soaps and in the multitude of other cleansers, waxes, polishes and disinfectants in daily use, odor may be an important, even decisive, factor in the brand decision.

While manufacturers of consumer goods in general have been at pains to eliminate even minor objectionable features of their products in bidding for popular favor, the sanitary specialty industry appears to have been less responsive to consumer preferences. It is true, of course, that products in this field play a vital role in the cleanliness of homes and institutions, and therefore consumers can't simply decide not to use them, as they might decide to give up some less essential commodity. It has been demonstrated again and again, however, that given a choice, people do turn to brands in which undesirable features have been eliminated or minimized. Consumers will use a product more frequently and in greater volume when "use resistance," due to the presence of a disagreeable odor, is eliminated.

A pleasant fragrance, or

simply freedom from unpleasant odor, may not contribute in the least to the effectiveness of the product, but it may provide the maker with a point of difference, a plus value, that will switch users to his brand.

An illustration that comes to mind is a cleanser which for the past several years has shown tremendous sales gains. It was and is heavily advertised, to be sure, but advertising alone cannot make repeat sales; these must result from consumer enthusiasm for the merits of the product. This cleanser represented a departure from competing brands in that it was pleasantly scented. By this means first-time users were immediately impressed with a point of difference that underscored the maker's claims for purely functional merits. These merits certainly existed, but now their existence was vividly highlighted by a physical characteristic that set this product apart—its pleasing fragrance.

More to the point, however, is the fact that competitors quickly recognized the value of scenting cleansers and many of them hastened to add some kind of fragrance to their own brands. The entire scouring powder market boomed with the

growth of consumer interest. Whatever equilibrium may be finally re-established between competing brands, it is a fact that the manufacturer who pioneers a departure from the ordinary reaps immediate and often lasting benefits and, when the unusual feature becomes standard, all improved brands rise to a higher plateau of consumption. On the other hand, the manufacturer who refuses to go with the trend must usually content himself with limited volume at giveaway prices, or he fades out of the picture entirely.

#### **More Imagination Needed**

As was pointed out, there is plenty of room for pioneering fragrances in the soap and detergent field. There is perhaps even more opportunity for the exercise of creative imagination in improving the perfuming of many chemical specialties now being marketed. For one thing, one notes a monotonous sameness in the fragrances employed. This suggests a desire to follow a trend rather than employ a novel approach. From time immemorial, wintergreen, sassafrass and lemon have represented the extent of the odor variations found in such products. It has been observed, too, that many products are insufficiently perfumed—as though their makers hesitated to have them stand out from the crowd.

Conservatism is undeniably a virtue in perfuming, as in other forms of endeavor, but the merchandising successes in every field have usually been chalked up by those who dared to be different. And today, when perfumery has become a science as well as an art, it is possible to go about the business of being different intelligently; it is possible to develop distinctive fragrances that set products apart from each other and, at the same time, to insure against failures arising from lack of technical knowledge.

A wealth of research equips the modern perfumer-chemist to approach his task on a scientific basis, to substitute informed judgment and

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San Francisco, Cal.

precise techniques for guesswork. Thus, the manufacturer who wants to employ fragrance as a sales tool can safely give rein to his imagination; modern perfume technology allows him plenty of latitude to be different without risking the integrity of his product.

The argument here put forward applies with equal force to the secondary manufacturer who supplies oils, detergents or other ingredients to the maker of the end-product. Often these components have undesirable odor characteristics which the primary manufacturer must neutralize in his product to make it salable. Where the supplier deodorizes them as a step in his own processing operation, he creates for himself an advantage over his competition in that his product becomes easier and less costly to use.

There are few products in the soap and chemical specialties field that cannot be improved by good perfuming techniques. Many, like scrub soaps and cleaners, are made from odorous fats obtained from soya beans or tall oil, or they utilize odoriferous stabilizers like pyrogallic acid. In others, such as ammonia or chlorine bleaches, the functional ingredient happens to possess an overpowering odor. As a rule, most insecticides, disinfectants, floor waxes, metal polishes, spot removers and bowl cleaners exhibit markedly unpleasant odors which can be—and from the standpoint of sales appeal should be—neutralized. In still other products, such as room

deodorant sprays, kitchen and laundry detergents, scouring powders, etc., the addition of a positive fragrance may enhance sales appeal considerably.

#### **Varied Problems Involved**

**D**EODORIZING or perfuming of soaps and chemical specialties confronts the perfumer-chemist with a variety of problems. First, he must classify the odor and select a type of scent that will cover it. Certain rules of thumb guide him here. He knows, for example, that an odor which is basically that of a rancid fat is best neutralized by citrus odor notes. Or that light floral notes and clean, fresh odors like pine or lavender are well suited for scouring powders.

With a number of formulations in each broad category of scent available to him, there may seem to be no special difficulty in choosing one suitable for the purpose. The problem begins to take shape when he must eliminate one after another from consideration because its chemical or physical properties are incompatible with the product to be treated.

A formulation which may be well matched with the offending odor may react with the product to cause discoloration, clouding, foaming or precipitation, or it may seriously affect functional properties. Where reactivity is comparatively low these effects may not appear for a considerable time, leading to the premature conclusion that a given formu-

lation is satisfactory. Research in the course of which a multitude of products and deodorant combinations have been shelf-tested in the laboratory may provide an immediate assurance, but in a new situation the perfumer must await the outcome of actual experiments before he can recommend the proper formulation.

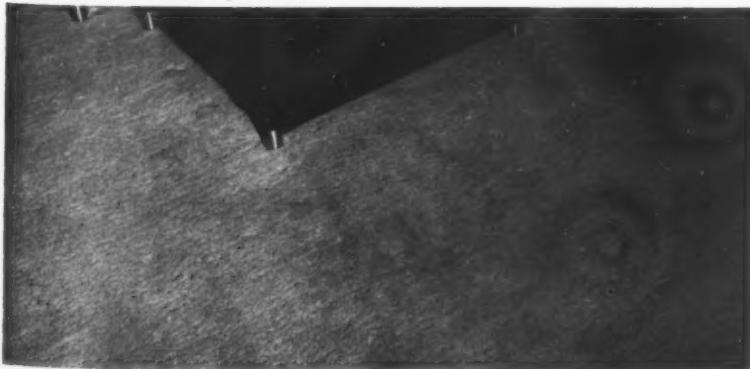
Illustrative of one kind of difficulty that may be encountered are disinfectants utilizing free iodine as the active germicidal agent. A number of perfume formulations that would be appropriate so far as their ability to mask the odor is concerned are at once removed from consideration because they contain either aldehydes, alcohols or benzenoid configurations. The affinity of iodine for these results in the formation of iodides and the consequent reduction of the germicidal principle as well as a breakdown of the odor. Moreover, as the free iodine reacts with such formulations, the greenish-yellow color of the product disappears and it becomes a colorless liquid.

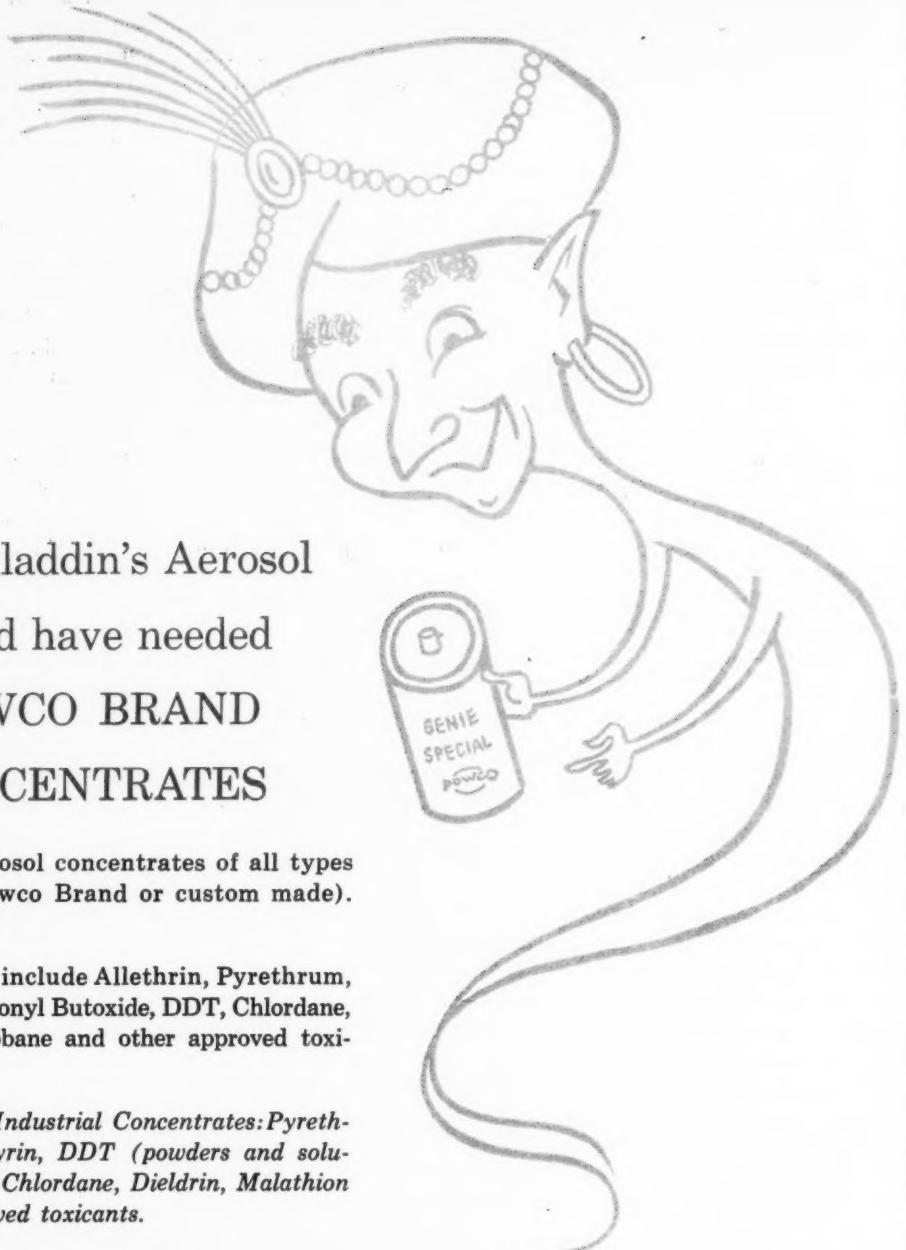
In general, some degree of difficulty will be experienced in perfuming products which are markedly acid or alkaline, or where the ingredients include oxidizing or reducing agents. Typical of these product categories are bisulphite cleaners (acid); most soaps (alkaline); household ammonia (ammoniacal); perborate bleaches (oxidizing agents).

The limitations imposed by iodine have been mentioned, and they extend to the rest of the halogen group. Thus, the hypochlorite bleaches, whether in liquid or powder form, require the use of extremely stable combinations that are not sensitive to halogenation. Some compounds of sulphur, too, are frequently hard to handle. Polysulphides, for example, are relatively stable until they are exposed to air or water, whereupon the loose sulphur linkage permits the formation of malodorous sulphides.

It should be emphasized again that the problem is not so

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much the selection or development of an appropriate deodorant as finding one that forms a stable mixture with the product so that neither function nor appearance of the latter are altered during normal shelf and use-life. Household ammonia can be masked by a number of aromatic combinations, but with the passage of time various reactions, including degradation of odor and change of pH, indicate their deficiencies for the job. When such situations arise, the perfumer must draw upon his knowledge of a vast number of aromatic chemicals (something like 2000 natural and synthetic oils) to work out a cover that is both permanently effective and compatible.

#### **Perfuming a Custom Job**

**I**N the light of the foregoing, it seems pertinent to observe that perfuming and masking are custom operations. The field of soap and related specialties embraces such a variety of compounds and mixtures that no handful of standardized formulations is versatile enough to cope with all the problems they create. The combination of aromatics that gives a room deodorant spray a specific fragrance does not necessarily impart the same scent to, let us say, a liquid soap or a drip fluid or some other preparation in which it may be desired. More important, the same formulation may not even work at all in these things.

A case in point is that of a scrub soap which the manufacturer wanted perfumed with a specified fragrance. When a formulation by which this note is commonly achieved was tried, the emulsion broke forthwith. Other approaches were followed with similar results. An emulsifying agent was incorporated, but still the emulsion failed to hold. Considerable research was necessary before a combination of aromatics and emulsifying agent was found that 1) yielded the desired odor; 2) was compatible with the soap formula.

In another case, a certain detergent exhibited a pronounced

fatty odor which was to be masked. In itself this should not have been difficult to cover, but the extremely high pH of this product eliminated at once several formulations that might otherwise have been used; some of the aromatics and esters in them were too unstable in the presence of high alkalinity to insure against early deterioration. The desired result was achieved, however, by compounding a masking agent with a wholly different group of aromatics which were less prone to hydrolysis by the alkaline components of this detergent.

A further consideration that militates against standardization of deodorants for sanitary chemicals is disparity of product life. A good cover should evaporate at the same rate as the odorant. In any case, it should last as long as the product in which it is used. Obviously, these factors vary over wide limits in a field that includes household detergents, furniture polishes, insecticides, para blocks and laundry bleaches, to mention at random a very few.

Formulations for the various types of room deodorants require a very exacting technique. In this group, we include fixtures of the wick or ceramic type for the treatment of large public areas (supermarkets, department stores, theatres, etc.) as well as those for home use. In this category, evaporation rate is the all important factor. Evaporation rates of the volatile components must be properly balanced to achieve a full use life (generally 30 days in industrial installations) with an odor character and strength that is constant from start to finish. If evaporation rates are not properly controlled, the evaporating surface may become clogged, thus arresting any further volatilization, or the lighter constituents may be dissipated too quickly resulting in a drastic change in odor character and strength toward the end of the use period.

Shelf life, kind of packaging, time required to use the product after the package is opened—

all of these differ materially from one product to another. These and other variables previously touched upon suggest that effective odor control is best achieved by individual treatment of each case.

#### **Competitive Weapon**

**T**HE value of deodorization, or in some cases the addition of a fragrance, has proved out time and time again. For many sanitary chemical specialties it offers a salient—and salable—difference from competition, sometimes the only difference. For others that may have lagged in sales for no other reason than that consumers found a competing brand more pleasant to use, perfuming offers an economical and practical means to get back in the running. The actual consumption of some products can be improved by removing "use resistance" through effective odor treatment.

And, when manufacturers and perfumer bring really exceptional merchandising acumen and imagination to bear on the project, when a fine product is given an outstanding difference and is astutely promoted, it may rocket to eminence in the marketplace well ahead of the most optimistic timetable set by its makers.

Finally, the importance of deodorizing or perfuming as a merchandising tool is underlined by growing consumer insistence that products in common use meet higher aesthetic standards. Makers of everything from automobiles to textiles are aware of this trend and cater to it. The product, whatever it is, must do its primary job, of course, and do it well. But the brand that appeals to the sensibilities as well as to a sense of the practical is most likely to forge ahead in the struggle for a larger share of sales.

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#### **Stauffer Adds to Facilities**

Stauffer Chemical Co., New York, has added 12,800 square feet to its insecticide factory in Tampa, Fla. The addition consists of three adjoining standardized steel frame buildings.

# Florasynth

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OIL BOUQUET G.R. No. 27 (PE)  
OIL BOUQUET J.W. No. 2404 (W)  
OIL BOUQUET M.S.O. No. 350  
LAVENDER BOUQUET No. 350  
NUTRALCO No. 350 (IN)  
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OIL BOUQUET P.C. No. 1954 (S)  
OIL BOUQUET P.D. No. 250 (P)  
OIL BOUQUET R.C. No. 604 (PE)  
ROSE GERANIUM No. 193  
OIL BOUQUET SASS. No. 1954 (A)  
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OIL BOUQUET ALMOND No. 8262 Water Soluble  
OIL CLOVER No. 888

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OIL WISTARIA No. 3124  
OIL GARDENIA No. 3125  
OIL BOUQUET E.T. No. 3126  
OIL BOUQUET P.C. No. 3127  
OIL BOUQUET H.L. No. 3128  
OIL BOUQUET K.L. No. 3129  
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OIL BOUQUET PINE No. 3131

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OIL LILAC No. 4315  
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# Effect of hard water on Quaternary Ammonium Germicides

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WHEN the efficiency of quaternary ammonium germicides is tested in natural waters, the initial contact "kill" is invariably high in terms of per cent of the inoculum destroyed, but considerable variation has been encountered in the rate of destruction of the relatively resistant surviving fraction of less than one per cent. This attenuation of germicidal activity has been generally attributed to interference by "hardness," because it is observed most frequently when the test water has a hardness of 300 ppm or more. (1, 2, 3). Seeley studied the effects of cations on the antibacterial action of benzalkonium chloride and showed that high cation concentration in the germicidal solution increased the number of surviving bacteria, but only when the concentration of in-

organic cations was far in excess of that found in the vast majority of potable waters. The author (5) tested benzalkonium chloride in different samples of natural waters and found that there was no relationship between hardness and the effective concentration of germicide when exposure was 10 minutes at 20°C. The phenomenon of interference with germicidal activity of the quaternaries, when present, has been restricted to gram negative test organisms, indicating that the qualitative nature of the organic substrate is a critical factor.

The introduction of the Weber and Black test procedure (4), utilizing *Escherichia coli* 198 as test organism, and shorter exposure periods at 25°C, emphasized the attenuating effect of certain natural waters on the rate of germicidal activity of the quaternary ammonium germicides, and this pro-

cedure has been used for further study of the phenomenon in natural and synthetic hard waters. This work will be reported *in extenso* elsewhere, but certain phases are of particular importance to the readers of this publication.

First, it was found that when synthetic hard water of 75, 150, 300, 450 or 600 ppm hardness was used (6), attenuation of the rate of kill of *E. coli* 198 was not related to the degree of hardness, although some attenuation was encountered in varying degrees when the hardness was more than 300 ppm. The presence of  $\text{Fe}_{++}$  ion influenced the result only when present in high concentration in the hardest water. Only in rare instances was the attenuating effect sufficient to permit survivors at the end of two minutes exposure to 200 ppm benzalkonium chloride at 25°C. On the other hand, certain natural waters of 56, and 328 ppm hardness showed approximately equal degrees of interference. Table 1 shows the results of tests in which such behavior was observed,

Table 1. Effect of Selected Waters of Various Degrees of Hardness on Sanitizing Action of 200 ppm Benzalkonium Chloride *E. coli* 193 at 25°C

| Hardness<br>ppm | Number of<br>survivors per cc.<br>after exposure for:<br>30 sec. | 60 sec. | 120 sec. | 180 sec. | Number<br>organisms<br>per cc.<br>Medication<br>Mixture<br>$\times 10^6$ |
|-----------------|--|---------|----------|----------|--|
| 450             | 715  | 30      | 0        | —        | 167.15   |
| 450             | 275  | 20      | 0        | —        | 152.3  |
| 450             | 58,900   | 4,910   | 0        | —        | 75.75  |
| 450             | 13,520   | 11,660  | 460      | —        | 75.75  |
| 328             | 7,270  | 220     | 10       | 20       | 186.0  |
| 328             | 8,100  | 103     | 120      | 0        | 186.0  |
| 328             | 38,400   | 11,910  | 30       | 0        | 124.0  |
| 56              | tnc  | 54,000  | 665      | 10       | 186.0  |
| 56              | tnc  | 52,000  | 140      | 0        | 186.0  |
| 56              | 76,800   | 5,500   | 0        | 0        | 115.3  |
| 56              | 64,000   | 5,400   | 0        | 0        | 115.3  |

Table 2. Effect of Mineral Ion in Diluent or Inoculum Benzalkonium Chloride 200 ppm *E. coli* 198 per cc.: 106 x 10 at 25°C

| Sanitizer<br>diluent, ppm | Inoculum<br>ppm | Final<br>ppm                       | Number Survivors<br>per cc. after<br>Exposure for: |         |
|---------------------------|-----------------|------------------------------------|--|---------|
|                           |                 |                                    | 30 sec.  | 60 sec. |
| 0*                        | 0               | 0**                                | 0  | 0       |
| 600                       | 0               | 0                                  | 300  | 0       |
| 600                       | 2               | 0                                  | 300  | 1.0     |
| 600                       | 5               | 0                                  | 300  | 2.5     |
| 300                       | 0               | 300                                | 0  | tnc     |
| 300                       | 0               | 300                                | 2  | 1       |
| 300                       | 0               | 300                                | 5  | 2.5     |
| *Distilled Water          |                 | **Buffered Distilled Water, pH 7.2 |  |         |

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Table 3. Effect on Cells of *E. coli* 198 of Transient Exposure to Hard Water Sensitivity tested to Benzalkonium Chloride in 450 ppm Synthetic Hard Water, 25 C. Number *E. coli* per cc. Medication Mixture =  $110 \times 10^6$

| Test Inoculum                                 | Number Survivors per cc. after exposure for: |         |          | Hardness<br>ppm | Number Organisms per cc. Medication Mixture X 10 <sup>6</sup> |
|---|--|---------|----------|-----------------|---|
|   | 30 sec.                                      | 60 sec. | 120 sec. |                 |   |
| In Hard Water, 450 ppm 20 minutes             | 13,520                                       | 11,660  | 460      |                 |   |
| Resuspended in H <sub>2</sub> O               | 0  | 0       | 0        |                 |   |
| Resuspended in Buffer (pH 7.0)                | 730  | 60      | 0        |                 |   |
| Unexposed Cells Suspended in H <sub>2</sub> O | 0  | 0       | 0        |                 |   |

Table 4. Effect of Growth of *E. coli* 198 for 17 Transfers in Presence of 1000 ppm Ca<sup>++</sup>, on Efficacy of 200 ppm Benzalkonium Chloride at 25°C.

| Diluent and Inoculum in | Number of Survivors per cc. after exposure for: |         |          |          | Number Organisms per cc. Medication Mixture X 10 <sup>6</sup> |
|-------------------------|---|---------|----------|----------|---|
|                         | 30 sec.   | 60 sec. | 120 sec. | 180 sec. |   |
| Parent Strain           |   |         |          |          |   |
| Distilled Water         | 0   | 0       | 0        | 0        | 73.1  |
| 328 ppm                 | 288,000   | 140,800 | 16,200   | 165      |   |
| Hard Water              | 102,400   | 160,000 | 4,180    | 225      | 73.1  |
| Adapted Strain          |   |         |          |          |   |
| Distilled Water         | 240   | 20      | 0        | 0        | 56.8  |
| 328 ppm                 | 89,600  | 30,600  | 745      | 50       |   |
| Hard Water              | 39,600  | 21,580  | 275      | 0        | 56.8  |

including tests showing the extremes observed in synthetic hard water of 450 ppm hardness. The attenuation of germicidal activity can be readily overcome by increasing the temperature for exposure, or by adding a sequestering agent to the system, but it is quite clear that hardness *per se* is of limited value for predicting the rate of germicidal efficiency under the experimental conditions of the Weber and Black procedure.

Attention was next directed to the site of activity of the interference phenomenon. The conditions of the Weber and Black procedure were adhered to, but in one series the mineral ions were restricted to the diluent for the germicide. Representative results are presented in Table 2, which shows conclusively that the site of action is the test organism. When the hardness of the germicide solution was 600 ppm and the inoculum was in buffered distilled water, there was no attenuation of germicidal activity. When the inoculum was suspended in the hard water, germicidal activity was

definitely attenuated. The final degree of hardness of the medication mixture was the same in both instances. It was further shown that antagonistic natural waters behaved in the same manner as the synthetic hard water. It was also shown that susceptibility of the inoculum, exposed to 450 ppm hard water for 20 minutes, was not decreased if the organisms were spun down by centrifugation and resuspended in buffer (Table 3). It is clear that the observed attenuation of germicidal activity is not significant when the test organism is exposed to benzalkonium chloride and mineral ions simultaneously. It should be noted that the Weber and Black procedure indicates that the suspension of *E. coli* 198 may be prepared in either the test water or buffer pH 7.2, preferably the test water.

In further study of the factors which might influence the susceptibility of the test organisms to the interfering action of mineral ion, *E. coli* 198 was grown for 17 transfers on F.D.A. agar containing 1000

Table 5. Effect of Peptones on the Sensitivity of *E. coli* 198 to the Sanitizing Action of 200 ppm Benzalkonium Chloride at 25°C.

| PEPTONE*        | Hardness<br>ppm | Number of Survivors per cc. after exposure for: |         |          |          | Number Organisms per cc. Medication Mixture X 10 <sup>6</sup> |
|-----------------|-----------------|---|---------|----------|----------|---|
|                 |                 | 30 sec.   | 60 sec. | 120 sec. | 180 sec. |   |
| Peptonum siccum | 328             | 34,900  | 33,400  | 5,500    | 30       | 68.1  |
|                 | 328             | 7,270   | 220     | 10       | 20       | 186.0   |
|                 | 450             | 57,600  | 51,200  | 11,660   | 60       | 88.5  |
|                 | 450             | 13,520  | 11,660  | 460      | 0        | 75.75   |
| Poly-peptone    | 328             | tnc   | tnc     | 32,000   | 4,290    |   |
|                 | 328             | tnc   | tnc     | 27,000   | 3,910    | 76.1  |
|                 | 450             | tnc   | 185,600 | 51,200   | 2,850    |   |
|                 | 450             | tnc   | tnc     | 52,800   | 5,780    | 76.1  |

\*Used in growing test culture.

tnc = too numerous to count.

Table 6. Effect of Peptones on the Sensitivity of *E. coli* 198 to the Sanitizing Action of 200 ppm Benzalkonium Chloride at 25°C.

| PEPTONE* | Hardness<br>ppm | Number of Survivors per cc. after exposure for: |         |          |          | Number Organisms per cc. Medication Mixture X 10 <sup>6</sup> |
|----------|-----------------|---|---------|----------|----------|---|
|          |                 | 30 sec.   | 60 sec. | 120 sec. | 180 sec. |   |
| Casitone | 328             | tnc   | tnc     | 7,326    | 125      |   |
|          | 328             | tnc   | tnc     | 29,200   | 275      | 78.5  |
|          | 450             | tnc   | tnc     | 16,000   | 1,700    |   |
|          | 450             | tnc   | tnc     | 20,480   | 4,580    | 78.5  |
| Phytone  | 328             | 70,400  | 19,300  | 3,480    | 100      |   |
|          | 328             | 16,500  | 11,800  | 8,620    | 280      | 32.6  |
|          | 450             | 34,800  | 11,450  | 3,740    | 300      |   |
|          | 450             | 161,800   | 32,000  | 4,215    | 220      | 32.6  |

\*Used in growing test culture.

tnc = too numerous to count.

ppm Ca<sup>++</sup>. Susceptibility of these cells to benzalkonium chloride 20 ppm was tested at the 10th and 17th transfer, in comparison with the parent culture maintained on F.D.A. agar. As shown in Table 4, continued growth in the presence of 1000 ppm Ca<sup>++</sup> did not significantly modify the behavior of the cells when suspended in natural water with a hardness of 328 ppm and exposed to the germicide prepared in the same deleterious water. There may have been a slight increase in susceptibility to the germicide.

In the experiments described above, the culture of *E. coli* 198 was grown and maintained on F.D.A. agar prepared with Armour's Peptone siccum as specified in Circular No. 198 (7) for testing of disinfectants. One experiment had "failed" to show expected interference of a natural water which has been consistent in behavior under the experimental conditions. It was subsequently discovered that the inoculum had been harvested from growth on a nutrient agar pre-

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pared with another peptone for other purposes. Examination of the role of various peptones in conditioning the test inoculum to the influence of factors which might interfere with the germicidal activity of benzalkonium chloride was indicated.

The basic F.D.A. agar formula was prepared, except that various peptones were substituted for the Armour Peptonum siccum. The peptones used were Bacto peptone (Difco), Casitone (Difco), Neopeptone (Difco), Proteose peptone (Difco), Proteose peptone No. 2 (Difco), Tryptone (Difco), Phytone (BBL), Polypeptone (BBL) and Thiotone (BBL). Subcultures of *E. coli* 198 were made from F.D.A. agar stock slants, and one to eight serial transfers were made to agar slants prepared with these peptones for preparation of the inoculum for tests carried out by the Weber and Black procedure. Well water of 328 ppm hardness, and 450 ppm synthetic hard water were used for preparation of both the test inoculum and benzalkonium chloride solution. As shown in Tables 5 to

10, on the basis of 99.999 per cent reduction of the test inoculum after 60 seconds exposure at 25°C, the results obtained clearly indicate that there are two categories of peptones, namely peptones which favor interference with germicidal activity of the quaternary, and those that do not. The organisms grown in the presence of Peptonum siccum, Casitone, Phytone or Polypeptone are susceptible to the interfering action of the hard waters used. In marked contrast, the cells of *E. coli* 198 grown in the presence of the alternative Bacto peptone, Proteose peptone, Proteose peptone No. 2, Neopeptone, Tryptone or Thiotone, showed no attenuation of susceptibility to 200 ppm benzalkonium chloride in the presence of the hard waters used for the study.

It has been established that the cells harvested from the first transfer culture grown on Bacto peptone are completely and rapidly susceptible to the germicidal action of benzalkonium chloride in hard water which interfered markedly with destruction of the parent cul-

ture grown on Peptonum siccum. That this is not a transient property is indicated by the fact that identical results were obtained after five successive transfers on Bacto peptone. Likewise, the cells grown on Peptonum siccum, Casitone, Polypeptone and Phytone were consistently susceptible to the so-called hard water effect through as many as eight transfers.

The results obtained clearly suggest that the so-called interference of hard water with the germicidal efficiency of benzalkonium chloride is an artifact, a laboratory phenomenon arising from an arbitrary choice of a nutrient upon which the test organism is maintained. The mechanisms involved are unknown, and it remains to be established that peptones influence the behavior of organisms other than *E. coli* 198 in the same manner. Studies to clarify these points are in progress. However, the field studies of Mallman (8) in which the sanitizing efficiency of benzalkonium chloride was clearly established, are completely compatible

Table 7. Effect of Peptones on the Sensitivity of *E. coli* 198 to the Sanitizing Action of 200 ppm Benzalkonium Chloride at 25°C.

| PEPTONE*         | Hardness<br>ppm | Number of Survivors per cc.<br>after exposure for: |         |          |          | Number<br>Organisms<br>per cc.<br>Medication<br>Mixture<br>$\times 10^4$ |
|------------------|-----------------|--|---------|----------|----------|--|
|                  |                 | 30 sec.  | 60 sec. | 120 sec. | 180 sec. |  |
| Bacto<br>peptone | 56              | 10   | 0       | 0        | 0        | 69.6   |
|                  | 56              | 0  | 0       | 0        | 0        |  |
|                  | 328             | 165  | 20      | 0        | 0        |  |
|                  | 328             | 165  | 10      | 0        | 0        |  |
|                  | 450             | 60   | 0       | 0        | 0        |  |
|                  | 460             | 110  | 30      | 10       | —        |  |

\*Used in growing test culture.

Table 8. Effect of Peptones on the Sensitivity of *E. coli* 198 to the Sanitizing Action of 200 ppm Benzalkonium Chloride at 25°C.

| PEPTONE*                     | Hardness<br>ppm | Number of Survivors per cc.<br>after exposure for: |         |          |          | Number<br>Organisms<br>per cc.<br>Medication<br>Mixture<br>$\times 10^4$ |
|------------------------------|-----------------|--|---------|----------|----------|--|
|                              |                 | 30 sec.  | 60 sec. | 120 sec. | 180 sec. |  |
| Proteose<br>peptone          | 328             | 285  | 50      | 0        | 0        | 70.3   |
|                              | 328             | 50   | 0       | 0        | 0        |  |
|                              | 450             | 10   | 0       | 0        | 40       |  |
|                              | 450             | 10   | 50      | 0        | 0        |  |
| Proteose<br>peptone<br>No. 2 | 328             | 10   | 50      | 10       | 0        | 79.3   |
|                              | 328             | 0  | 0       | 0        | 0        |  |
|                              | 450             | 550  | 0       | 0        | 0        |  |
|                              | 450             | 170  | 0       | 0        | 0        |  |

\*Used in growing test culture.

Table 9. Effect of Peptones on the Sensitivity of *E. coli* 198 to the Sanitizing Action of 200 ppm Benzalkonium Chloride at 25°C.

| PEPTONE*   | Hardness<br>ppm | Number of Survivors per cc.<br>after exposure for: |         |          |          | Number<br>Organisms<br>per cc.<br>Medication<br>Mixture<br>$\times 10^4$ |
|------------|-----------------|--|---------|----------|----------|--|
|            |                 | 30 sec.  | 60 sec. | 120 sec. | 180 sec. |  |
| Neopeptone | 328             | 100  | 0       | 0        | 0        | 68.5   |
|            | 328             | 10   | 0       | 0        | 0        |  |
|            | 450             | 325  | 0       | 0        | 0        |  |
|            | 450             | 19,900   | 120     | 0        | 0        |  |
| Thiotone   | 328             | 460  | 30      | 0        | 0        | 62.8   |
|            | 328             | 1,785  | 70      | 0        | 0        |  |
|            | 450             | 30   | 0       | 0        | 0        |  |
|            | 450             | 30   | 0       | 0        | 0        |  |

\*Used in growing test culture.

Table 10. Effect of Peptones on the Sensitivity of *E. coli* 198 to the Sanitizing Action of 200 ppm Benzalkonium Chloride at 25°C.

| PEPTONE* | Hardness<br>ppm | Number of Survivors per cc.<br>after exposure for: |         |          |          | Number<br>Organisms<br>per cc.<br>Medication<br>Mixture<br>$\times 10^4$ |
|----------|-----------------|--|---------|----------|----------|--|
|          |                 | 30 sec.  | 60 sec. | 120 sec. | 180 sec. |  |
| Tryptone | 328             | 60   | 0       | 0        | 0        | 74.7   |
|          | 328             | 85   | 0       | 0        | 0        |  |
|          | 450             | 1,475  | 20      | 0        | 0        |  |
|          | 450             | 2,925  | 355     | 85       | 0        |  |

\*Used in growing test culture.

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with an indictment of the "hard water effect" as being essentially a laboratory phenomenon attributable to the traditional use of Peptonum siccum for maintaining cultures used for disinfectant testing.

### Conclusions

1. The attenuation of the germicidal action of benzalkonium chloride (on *E. coli* 198) which is characteristic of certain natural waters and synthetic hard water is not attributable to hardness *per se*.
2. The site of action of antagonistic waters is the bacterial cell, and maximum interference with the germicide requires exposure of the cells to the antagonistic water *prior* to exposure to the germicide.
3. Growth of the test organism in high concentration of cation (Ca++ 1000 ppm) does not modify the susceptibility of the cells to benzalkonium chloride.
4. Cultures of *E. coli* 198 grown on nutrient agar prepared with Bacto peptone, Proteose peptone, Proteose peptone No. 2, Neopeptone, Tryptone or Thiotone, instead of Peptonum siccum, do not show the "hard water effect" of attenuation of the rate of germicidal efficiency of benzalkonium chloride. Three other peptones, Casitone, Polypeptone and Phytone, resemble Peptonum siccum in inducing susceptibility to the interfering action of certain waters.
5. The so-called "hard water effect" on the germicidal efficiency of benzalkonium chloride (and presumably related quaternary ammonium germicides) is a laboratory phenomenon of questionable significance in the evaluation of germicidal efficiency.

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### Sanitizer-Detergents

(From Page 167)

compounds ineffective. This stability characteristic is of great value under the usual conditions of practical application. For instance, milkstone formation is prevented by iodophors prepared with nonionic compounds. Nonionic surfactants are electrically neutral. Such nonionic compounds used as carriers and solubilizing agents for iodine do not exhibit an electrical charge and are compatible with electrolytes and other surface active agents (ionic as well as other nonionic compounds). Not every nonionic surfactant is suitable for the production of an iodophor or a nonionic-iodine "complex," to be used practically for the many purposes, almost universal, now found characteristic of the available marketed iodophors. For instance, an iodophor prepared from a nonionic surfactant which produces excessive foaming may be objectionable under certain conditions of practical use. Even the opposite effect, that of preventing all foam production (anti-foaming) by residual surfactant after use may be objectionable in a few instances. Obviously it would be objectionable to use a surfactant which may leave a residue if not properly rinsed. Some nonionic surfactants are only sparingly soluble in water, so that they would not be suitable for the preparation of water-soluble iodophors.

(To be concluded)

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### Monsanto Has Cyclohexanol

Cyclohexanol is available in tank car and carlot drum quantities from the organic chemicals division

of Monsanto Chemical Co., St. Louis, Mo. it was announced recently. The product is recommended as a stabilizer and homogenizer for soap and detergent emulsions used in the dry cleaning and textile industries. It acts as a mutual solvent for water-immiscible liquids. Showing most of the reactions of a secondary alcohol, cyclohexanol reacts with organic acids to form esters. With dehydration agents it gives cyclohexene and upon oxidation yields cyclohexanone or adipic acid.

### New Shellac Plasticizer

A new shellac plasticizer, "Stysolac AW," was announced late last month by F. H. Paul & Stein Bros., Inc., 235 Fifth Ave., New York. A clear, light straw-color liquid, it has a boiling point of 285°C. The material is slightly viscous, neutral, of high molecular structure, stable and unaffected by commonly used alkalies, according to Paul & Stein.

"Stysolac AW" is a true solvent-plasticizer for shellac and can be used in alkaline-water dispersions as well as in alcohol solutions. Being a true solvent for shellac, it becomes part of the shellac film on drying and does not migrate. Insoluble in water, it will not absorb atmospheric moisture. The new plasticizer tends to impart greater flexibility with increased strength to shellac films. It is also effective as a plasticizer for zein, and for natural and synthetic resins used as shellac substitutes or extenders such as rosin, ester gum, vinsol, etc.

### New Bareco Wax

A new emulsifiable petroleum wax for use by the liquid floor polish industry was introduced recently by Bareco Oil Co., Tulsa, Okla. "Petronuba D" is said to be the result of a special refining process which tends to remove the soft tacky fractions from the wax leaving it with superior anti-scuff properties. The wax melts at 192.2°F and has an exceptionally low penetration of 3.5 at 77°F to 28.0 at 130°F.

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*Mione* MANUFACTURING COMPANY  
Makers of famous hand soaps for more than 40 years  
COLLINGDALE PENNSYLVANIA

### New Borax Weedkiller

Pacific Coast Borax Co., Los Angeles, recently introduced "Ureabor," a new weed and grass killer. A complex of sodium borates and 3-p-chlorophenyl 1,1, dimethylurea, the product requires no mixing or spraying equipment but is used dry. It comes in 50-pound bags and will be marketed by Pacific's agricultural sales division.

The division announced at the same time the appointment of F. M. Dosch as manager of its district office in Kansas City. Mr. Dosch has been with the firm since 1950.

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### Horticultural Aerosols

Two new horticultural aerosol formulations were introduced recently by E. I. du Pont de Nemours & Co., Wilmington, Del. An aerosol formulation of 2,4-D called "Lawn Weeder" contains an inert white pigment which lingers on dandelions, plantains, and other sprayed surfaces long enough to act as an indicator where the spray has already been used. This weed killer comes in a 12-ounce can with a polyethylene spray nozzle.

A pressure packed insecticide designed for pests infesting the flower garden plants incorporates methoxychlor, lindane, and rotenone. The product comes in an aerosol dispenser with finger-tip spray valve.

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### Cashmere Bouquet

(From Page 46)

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In 1870, he hit upon a combination that appealed to him as a possibility for a toilet soap. With the aid of an iron mortar and pestle, he pounded together his experimental perfume with a fine toilet soap base. Others in the company shared his enthusiasm over this new blend and agreed to market it under a new name—"Cashmere Bouquet." The exact date of the first sale is lost in history, but the name was registered in the United States in July, 1872.

Each cake was individually wrapped and sealed with sealing wax, which during this era was a sign of good taste and luxury. According to Colgate and Company, the soap sold for 25 cents a cake or three cakes for seventy cents, which made it a luxury item. The three cakes, first wrapped and then boxed, apparently retained their odor better than individually wrapped cakes.

The soap itself was an immediate success. Women used it for its fragrance. Many kept bars in bureau drawers to scent lingerie, handkerchiefs and linens. The scent proved so popular that, about a year after the introduction of the soap, Colgate brought out "Cashmere Bouquet Extract." This was advertised for "ladies of taste and culture" who wished to "use only refined perfumes for the handkerchief."

By 1875, "Cashmere Bouquet" was one of the country's leading toilet soaps. In 1883, a Colgate and Company calendar declared that "the novelty and exceptional strength of its perfume are the peculiar fascinations of this luxurious article, which has acquired popularity unequaled by any toilet soap of home or foreign manufacture."

A circular of the next decade claimed that "the sale of 'Cashmere Bouquet' toilet soap for the past year exceeded the importation of all toilet soaps from England, France, Germany, Italy and all other companies combined, as shown by the United States Treasury for the year 1886. The 'Cashmere Bouquet' is but one of the 103 varieties of toilet soap manufactured by Colgate and Company."

An advertisement of 1890 announced that "90 tons of roses besides many tons of violets, orange blossoms, jasmine, and geranium are each year gathered in Southern France for Colgate's soaps and perfumes of which 'Cashmere Bouquet' is the favorite." By 1893, the amount had risen to 110 tons of roses.

The first important change

in "Cashmere Bouquet" came during World War I, when many of the perfumes from Europe and the East were not available. Synthetic substitutes were devised by Colgate chemists which were comparable in quality, but proved to be more stable than the original perfumes.

As time marched on, so did the soap. By 1925, wrapping machines capable of handling 60 bars a minute were devised and introduced. A simple fold was involved and sealing wax was no longer needed.

By 1932, Colgate was seeking wider markets for its products. Modern packaging machinery was coming into its own and could package soap in bulk and cut production costs. The price of "Cashmere Bouquet" dropped from 25 cents a cake to 10 cents. The bar was redesigned as a flat, oval bar and fitted in a shell wrapper. The soap retained its traditional whiteness.

In 1951, the shape and the wrapper were further modified to keep up with changes in distribution and taste. The modified oblong bar proved easier to stack and the simpler wrapper design offered greater shelf visibility. However, through the years, the floral odor, though the materials used have changed and improved, has remained constant in the soap.

This odor was recently blended into printing inks for use in a double page advertisement that appeared in the *Times-Herald* of Dallas, Texas. The orchid-colored ink contained the scent as part of a food mart's advertising for the promotion of "Cashmere Bouquet."

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### Aerosol Decision

(From Page 197)

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believed contrary to fact,—that the exact formula of *Rise* had been known to Colgate before *Fine* came there, *Fine*, nevertheless, committed a breach of the confidential information that he had obtained at *Snell's* by disclosing to Colgate the formula for using the triethanolamine soap of *Rise* in combination with the potassium and sodium soaps that led to *Rapid Shave No. 1*. Thus from any angle that *Fine's* conduct may be approached, it is clear that it was wrongful prior to the issuance of the *Spitzer* patent, because prior to such issuance, *Fine* disclosed to Colgate what he had



learned at Snell's, and thereby Colgate obtained an advantage that it otherwise would not have obtained at such time. See *Chesapeake & Ohio Ry. Co. v. Kaltenbach*, 124 F.2d 375, 52 USPQ 115.

[17] Further analysis of decisions is believed to be unnecessary to show that the law is generally well established that a third party that uses trade secrets of another,—as Colgate has done, —which have been obtained through breach of a confidential relationship, either with actual knowledge of such breach, or of facts from which knowledge of it is reasonably to be inferred, is liable equally with the one who makes the breach,—as Fine as done.

#### LACHES

No question arises here under the Maryland three year statute of limitations. The present suit was brought in October, 1953, and the first Colgate product was originally put on the market in a sales test in January, 1952, and in the fall of the same year, it was put on sale generally. See *Mas v. Coca Cola Co.*, 198 F.2d 380, 94 USPQ 156. However, Colgate asserts the defense of laches on the ground that Carter knew about Colgate's marketing of its products as early as January, 1952, and that the very substantial expenditures which Colgate made in this connection might have been avoided had Carter indicated promptly that it was going to assert its present claim of unfair competition. But this contention is lacking in merit. It was Carter, not Colgate, that had been misled, to its detriment. In June, 1951, Snell sent the Patent Department of Colgate a copy of Fine's employment contract during the period that he had worked with Snell. The terms of this contract were the subject of correspondence, and Colgate's patent attorney gave Snell assurances that Fine, during his work for Colgate, would respect all the requirements arising from his earlier relations with Snell on behalf of Carter.

Thus, there remains the additional question to be determined, namely, the measure of damages applicable against Colgate. This is prescribed in *Hoeltke v. C. M. Kemp Mfg. Co.*, 80 F.2d 912, 26 USPQ 114 and 28 USPQ 176, and *Reynolds v. Whitin Machine Works*, 167 F.2d 78, 76 USPQ 551, both being decisions of the Court of Appeals for this, the Fourth Circuit. These two decisions have not heretofore been analysed in this opinion because the facts upon which they are based are believed not to have been as similar to the facts in issue as were the facts in the cases which have been analysed herein, although the Hoeltke and Reynolds decisions fully support the legal principle upon which we rest our conclusion that Colgate is liable to Carter for wrongful appropriation of the latter's trade secrets with respect to the invention of the Spitzer patent. The measure of damages prescribed in both of those cases and applicable to the present case is thus stated: "The general rule, of course, is that the monopoly of a patent which entitles a patentee to damages for infringement commences only when the patent is granted; but where, in advance of the granting of a patent, an invention is disclosed to one who, in breach of the confidence thus reposed, manufactures and sells articles embodying the invention, such person should be held liable for the profits and damages resulting therefrom, not under the pat-

ent statutes, but upon the principle that equity will not permit one to unjustly enrich himself at the expense of another. \* \* \* It would be a reproach to any system of jurisprudence to permit one who has received a disclosure in confidence to thus appropriate the idea of another without liability for the wrong." (80 F.2d 912, at 922-3, 26 USPQ 114, 125-126, and 167 F.2d 78, at 86, 76 USPQ 551, 558).

#### Lankenau Hospital

(From Page 53)

13 pounds of 88% tallow soap, which is boiled to make the stock solutions. Calcium chloride, powdered bleach, modified soda, a fluorine compound sour, and a sodium silicate fluoride blue are added to the solution.

The laundry is swept twice a day with a floor brush, and scrubbed with a detergent and hosed down once a week. An air hose blows lint off the equipment.

The Philadelphia area can well be proud of its new up-to-the-minute Lankenau Hospital. Just as its medical and nursing staffs use the most modern equipment and methods combined with old-fashioned sympathetic care, so the housekeeping departments operate with an experimental, open-minded point of view together with old-fashioned thoroughness and attention to detail.

#### Shows New Items

(From Page 187)

classification so that withdrawals to fill orders can be handled easily and inventory checking simplified.

A visible file inventory system provides all necessary product information by a flip of a card. Cards are classified first by merchandise and then by brands. Each card lists the starting inventory, quantity on hand and that on order. In addition, each card specifies the location of each particular item so that no time is lost in reaching it.

"With the hundreds of items we carry it is easy to overlook certain ones that lose either their appeal or demand," says Mr. Patten. "We avoid this by an accurate inventory control system. As we are

constantly checking our file cards we know when merchandise should be ordered, the specific quantities to be bought and which items are not moving. We base our operation on this information."

Patten, for the first time, is in the process of preparing a catalog for distribution to its customers. The firm feels that such a directory of its products will make ordering and re-ordering easier, will stimulate telephone and mail orders, as well as keeping the Patten name before the customer at all times.

From time to time this jobber runs large display newspaper advertising. Because of the highly industrialized area in which the firm is located the company feels it reaches present and prospective customers in this way. Patten has a modern showroom to accommodate "walk-in" business that may result from newspaper advertising or through invitations issued by salesmen to their customers and prospects.

"We have a very modern and completely equipped merchandise display in our showroom," says Mr. Patten, "because we believe that it helps us to establish stronger ties with our customers. Many new customers have come to us as a result of visiting our showroom. We try to persuade our regular customers to visit the showroom at least once a year. There are many items that customers see on our shelves for the first time. This stimulates them to try them. We feel also that a well-kept showroom gives our firm added prestige. We find also that many customers like to come in just to browse around.

W. J. Patten Co. was started by Harry and Bill Patten in 1936. When both men went into military service the business was suspended. In 1945, it was reopened by the two partners. As a result of their aggressive promotion ideas and sound merchandising plans, they have reestablished and expanded their business to the point where it is now one of the most successful in the sanitary supply industry.

## **Windsor Wax Can Help You Solve All Your Wax Problems**

**You Make MORE MONEY with  
Specialized WINDSOR WAXES**

- Greater Customer Satisfaction
- Higher Markup
- Bigger Wax Orders

*We shall be happy to analyze any of  
your wax problems without obligation.*

- NO RUBBING WAXES
- WATER-EMULSION PASTE WAX
- SOLVENT LIQUID WAX
- SOLVENT PASTE WAX
- PIGMENTED WAXES IN RED, GREEN,  
BLACK, BUFF, GREY
- POWDERED DANCE WAX
- FURNITURE POLISH
- FURNITURE WAX
- WAX-BASE CLEANER
- WAX REMOVER
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- SPECIAL FORMULA WAXES
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PACKED FROM THE PINT CAN TO THE 55 GALLON DRUM  
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"THE WAX HOUSE"  
WAX SPECIALISTS FOR OVER 30 YEARS.  
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A complete line of quality brushes for the trade

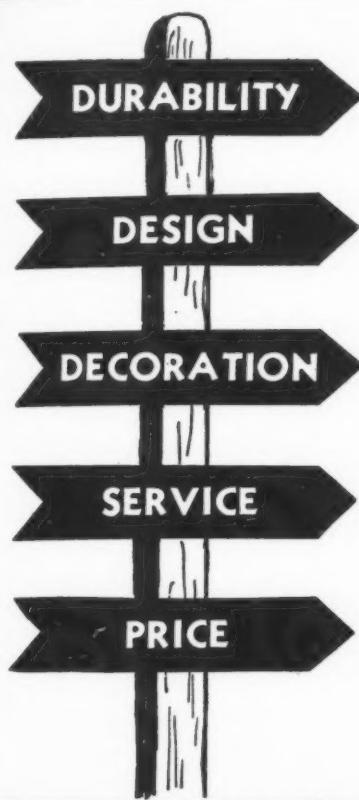
- Tough brushes give long life under constant use.
- Brush heads of superior materials for better cleaning with minimum effort.
- Straight grained hardwood handles and blocks assure greater strength.
- Spiral winding—by experts—locks brush heads securely . . . No loose or dangling bristles.

### **COMPLETE CUSTOMER SATISFACTION GUARANTEED**

Write Dept. M5 for our NEW 1955 catalog

"Quality Brushes Since 1869"

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Eastern's superior workmanship guarantees strong, durable containers that will take your product safely to market.

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No. 125—with glass globe only

- heavy cast metal parts
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**SOAPERIOR soap dispensers, valves, tanks**  
— liquid, lather, powder —  
toilet room accessories  
*Write for circulars and prices*

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A COMPLETE LINE OF FLOOR MAINTENANCE MATERIALS AVAILABLE UNDER YOUR OWN LABEL . . . sales assistance and prompt delivery of materials are assured by Franklin factory representatives, offices and warehouses located in principal cities from coast to coast.



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SOAP and CHEMICAL SPECIALTIES

# BOOK REVIEWS . . .

## Biochemistry of Fats

*The Lipids, Their Chemistry and Biochemistry*, in three volumes by Harry J. Deuel, Jr., Interscience Publishers, Inc., New York, volume II, 919 pages, nine and one quarter inches by six and one quarter inches, cloth bound, price \$25.00. This volume is a collation of available information on the digestion, absorption, transport, and storage of fats and other lipids in the animal body.

## Textbook on Waxes

*Wax Encyclopedia (Wachs-Enzyklopädie)* volume I, by L. Ivanovszky, Verlag fuer Chemische Industrie, H. Ziolkowsky K.G., Beethovenstr.16, Augsburg, Germany, 1954. 232 pages, cloth bound, five inches by six and three quarter inches. Price DM 11. Subtitled "The Waxes and Their Most Important Characteristics," this volume has three main parts: I. introduction into the field of waxes; II. physical chemistry and III. science of retention. The second volume, which is to deal with analysis, commercial aspects, and technology of waxes, is currently in preparation.

Part I of the volume under review consists of a general introduction; definitions and classifications; and information dealing with production, uses, and types of waxes. Part II includes sections on the most important wax groups, on structures, specific systems, phase rule, and other aspects of the physical chemistry. Part III deals with wax/solvent systems, liquid systems, and includes an addendum referring to water-containing systems and a number of setting point diagrams.

The volume carries 14 illustrations and tables, a glossary and a particularly well arranged index. The contents of the book are based on a series of articles by Dr. Ivanovszky, which appeared in

*Seifen, Oele, Fette, Wachse. Wachs Encyclopedia* is an important contribution to the field of chemistry, physics, and technology of waxes, natural and synthetic.

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## New Perfumery Edition

"The Science and Art of Perfumery" by Edward Sagarin, Greenberg, New York, second edition 1955, cloth bound, 220 pages, five and one half inches by eight and one quarter inches, price \$3.50. This informative and readable volume made its first appearance in 1945. Few changes have been made in the body of the second edition: some minor alterations in the text and a few new illustrations. But the two appendices of the first edition have disappeared and been replaced by one entitled: "Origins of Perfume Literature" and based on a paper by the author originally printed in the *Journal of the Society of Cosmetic Chemists*.

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## Emulsion Technology

*Principles of Emulsion Technology* by Paul Becher, Reinhold Publishing Corp., New York, 1955, 149 pages, cloth bound, four and three quarter inches by seven inches, price \$2.95. The author, senior project chemist with Colgate-Palmolive Co., Jersey City, N.J., starts by defining dispersions and emulsions and then deals with surface activity and surface active agents. The third chapter, devoted to the theory of emulsions, considers the physico-chemical part played by these agents in emulsions. The chemistry of emulsifying agents, emulsification equipment and the testing of emulsion properties are dealt with in the ensuing chapters. In chapter seven the author turns to the formulation of practical technological emulsions, and in discussing the choice of emulsifying agents he evaluates the HLB method, showing its advantages and

draw-backs. Tables to illustrate the HLB method are included. Methods of emulsification are classified and discussed in general. The section devoted to formulations and processing of useful commercial emulsions, deals with cosmetics, food, polishes, paints, and other fields. Emulsion polymerization is described in some detail. The eighth and final chapter covers demulsification or emulsion breaking.

"The book is written for those who have studied chemistry and are now desirous of learning more about theoretical and applied emulsions than the passing mention given to the topic in physical chemistry courses," according to Mr. Becher's preface. The volume has appeared in Reinhold's Pilot Book series.

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## New Aromatics Price List

N. V. Polak & Schwarz's Essencesfabriken, Zaandam, Holland, has published the May issue of its bimonthly price list of aromatic chemicals. Prices are quoted in British and Dutch currency. The booklet carries a loose insert indicating that citronella oil has advanced after closing to such an extent that the list-prices of all its derivatives are at least five percent too low. Furthermore, similar movement is expected in the lemongrass oil market.

Following its practice of highlighting one product in each list, Polak & Schwarz supplies in this issue detailed information on cyclopentadecanolide, trade named "Muscolacton" and described as one of the firm's most expensive products. The addition of one to three parts of the product to 1,000 parts of any soap perfume is said to impart interesting properties and to cause no change in color.

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## New Fritzsche Office

Fritzsche Brothers Inc., New York, announced recently that its affiliate, Fritzsche Brothers of Canada, Ltd., has opened a new office at 6999 Cote des Neiges Road, corner of Numur Road, Montreal 26.

**are you searching for a scent?**



We at Perry Brothers have solved scores of perfume puzzlers, and we'll be glad to help you with yours.

100 ml.

Manufacturers of: **PERFUME BASES  
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Let the imagination and skill of Perry Brothers' master chemists formulate the particular fragrance that will enhance your product. Over 25 years of know-how and experience in the creative art of perfuming.

Let us send you samples best suited for your specific needs.



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**A CARNAUBA BASE, HARD FINISH, FLOOR WAX  
THAT'S BUFFABLE, WITH ALL THE GOOD FEATURES  
BUT NONE OF THE DRAWBACKS**

**A 10 STAR PRODUCT!**



- ★ EXTRA HIGH GLOSS
- ★ HARD FINISH
- ★ SCUFF RESISTANT
- ★ BUFFABLE
- ★ MIRACULOUS LEVELING PROPERTIES
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# News

## Velsicol Moves In N.Y.C.

The New York office of Velsicol Corp., Chicago, has been moved to new and larger quarters in the Empire State Building, 350 Fifth Ave., it was announced last month by E. T. Collinsworth, Jr., vice-president and general manager. All activities pertaining to the sale and distribution of the firm's products in foreign markets and on the Eastern seaboard will be directed from the new address.



Jack T. Hohnstine

## CSMA Proceedings

The Proceedings of 41st annual meeting of the Chemical Specialties Manufacturers Assn., which was held in New York, Dec. 7-8, were distributed last month and are now available postpaid for \$7.50 per copy in the U. S.; \$8.00 elsewhere. The printed Proceedings contain over 200 pages of reports, presentations, papers and discussions at general sessions and divisional meetings. The volume also lists officers, members of the board of governors, committee members and general association membership. The Proceedings are in a paper-cover volume, 8½ x 11 inches, with flexible plastic binding.

## Hohnstine a Vice-President

Jack T. Hohnstine has been elected vice-president in charge of product research and development for Boyle-Midway, Inc., New York, it was announced last month by Strieder Schraffenberger, president. Mr. Hohnstine has been associated with Boyle-Midway, Inc., and its predecessor, A. S. Boyle Co., since 1936 and has successively served as chemist and technical director. In addition to his duties at the firm's research and development laboratory, at the Cranford, N. J., plant, Mr. Hohnstine is also in charge of the company's laboratories in Chicago; Los Angeles; Chamblee, Ga.; and Toronto.

During his career at Boyle-

Midway, Mr. Hohnstine has been responsible for the development of many of the firm's specialties including "Aerowax," "Aero Shave," "Black Flag" insecticides, "Wizard"

John Hoeksema, president of Metz Co., Grand Rapids, Mich., right, and Mrs. Hoeksema, with Gene Thiroff of James Varley & Sons, Inc., St. Louis, at St. Louis airport. The Hoeksemas are on their way to Florida for an all-expense paid, two week vacation. Mr. Hoeksema won top prize in selling more of Varley's "Glyco-Mist" deodorant than any other salesman in contest sponsored by James Varley & Sons, Inc. The three months' contest attracted more than 800 entries.

Second and third prize winners were A. P. Klose of Manufacturer's Specialty Co., St. Louis and Louis C. Holzapfel of Sanco Products Co., Greenville, O. They won 21-inch console television sets of their own choice. Hundreds of other prizes were awarded to other salesmen participating in the contest.



deodorants, and "Wizard" hair spray. He is an active member of the Chemical Specialties Manufacturers Association, the American Society for Testing Materials, and other groups.

## Acquires Metazene

Motomco, Inc., New York, has acquired the basic patent covering "Metazene," a material used as the active ingredient in aerosol spray deodorants. Developed and patented by Lowell Kilgore, the product was previously made and marketed by Kilgore Chemicals Div., of Atlantic Research Corp., Alexandria, Va.

Derived from esters of methacrylic acid, a fine mist or spray of "Metazene" is said to combine with airborne odoriferous substances and to neutralize their odors rather than mask them. The product is said to be effective against common household kitchen or bathroom odors and to control efficiently odors in institutional and industrial locations.

Motomco will continue to market "Metazene" as a 40 percent and 80 percent concentrate to manufacturers and sellers of aerosol deodorizers and for use in mechanical aerosol generators or spraying equipment.

## New Specialties Plant

National Research & Chemical Co., Los Angeles, completed its new \$300,000 plant located at 12520 Cerise Avenue, Hawthorne, on April 2. The three acre site is adjacent to transportation and public utilities. The sprinkled reinforced concrete structure houses office, production, and packaging facilities for the firm's line of industrial cleaning compounds and chemical specialties. The structure consists of approximately 25,000 square feet under roof and 15,000 square feet of semi-enclosed area.

The firm was founded 35 years ago by William Henry Atwill on Sunset Boulevard, Hollywood. John F. Atwill is president of the firm and A. J. Atwill vice-president.

## Carter Files "Rise" Patent Suit Decree

CARTER Products Co. filed a decree Apr. 18 asking triple damages in its suit against Colgate-Palmolive Co., Jersey City, N. J., over the "Rise" shave cream patent and for "unfair trade practices" on the part of Colgate. The validity of the "Rise" aerosol shave patent was upheld and Colgate, Stalfort Pressure-Pak Corp., John C. Stalfort & Sons, Inc., and Read Drug & Chem-

ical Co., all of Baltimore, were found guilty of infringing the patent in an eight weeks trial held in the U. S. Federal District Court in Baltimore, earlier this year. In addition, the presiding judge, William C. Coleman found that Colgate was guilty of wrongfully appropriating confidential information and trade secrets of Carter.

Carter is asking \$185,000 for

court costs from Colgate, and is asking for single damages against Stalfort.

Colgate has 30 days in which to oppose the decree filed by Carter, and following the issuance of a final decree by the judge, Colgate will have 60 days in which to file an appeal. Colgate has indicated it would appeal the case.

A rumor circulating late last month to the effect that Colgate had signed a licensing agreement with Carter was denied by Henry Hoyt, president of Carter. He reported that American Home Products Corp., New York, of which Boyle-Midway, Inc., is a division, and Procter & Gamble Co., Cincinnati, were negotiating licensing agreements under the so-called "Rise" patent, which is owned by Carter. Procter & Gamble is said to have paid a set amount to test their new "Whipped Drene" aerosol shampoo, which is said to be the first synthetic detergent type shampoo formulation packaged as a glass aerosol. Colgate-Palmolive Co. is reported to have a similar product, to be marketed as another form of "Halo" shampoo.

American Home Products Corp. is negotiating with Carter for a licensing agreement to cover "Aeroshave," Boyle-Midway's aerosol lather shave product.

Terms of the licensing agreement being offered by Carter Products Co. is five percent of manufacturer's sales.

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## Anti-Microbial for Fabrics

A series of new anti-microbial chemicals for application to textiles was introduced recently by Wilcris Chemical Corp., New York. Trade named "Sub-Du" these compounds are said to render materials actively anti-microbial without impairing their color, texture or hand. In addition the products are said to function as deodorants and to be effective against mildew. "Sub-Du" is claimed to be non-toxic, odorless, colorless, highly substantive to natural and synthetic fibers, and economical in use.



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Paul W. Linton

#### **Johnson Advances Linton**

The advancement of Paul W. Linton to the post of assistant to the executive vice-president of S. C. Johnson & Son, Inc., Racine, Wis., was announced recently. Previously he was head of the company's budget section. He joined Johnson in 1947 as a member of the financial division. A graduate of Indiana University, Mr. Linton is a certified public accountant. He replaces William C. Kidd who has been named a regional director in the company's international division.

— ★ —

#### **Velsicol Heptachlor Folder**

A six-page, two-color folder dealing with "Heptachlor" in alfalfa weevil control is available to insecticide formulators, distributors and dealers, it was announced recently by Velsicol Corp., 330 E. Grand Avenue, Chicago, 11. Methods and rates of application and formulations of "Heptachlor" are included along with other pertinent information.

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#### **Boston BIMS Party Plans**

A Ladies Night party at Weston (Mass.) Country Club leads off the schedule of events for the 1955 spring and summer season of BIMS of Boston, it was announced recently. Golfing parties are to be held at Weston Country Club on June 23, at Vesper Country Club, Lowell, Mass., Aug. 18 and at Nashua, N. H., Country Club, Sept. 13.

MAY, 1955

#### **Absorbs Indust. Oil Prods.**

Merchant Products Corp., Philadelphia, recently announced that Industrial Oil Products Corp., formerly operating as a separate corporation, has been liquidated and its operations absorbed by Merchant Products. The following officers were elected: Fred E. Loud, chairman of the board; S. Nelson MacFaul, president; Carl M. Obeck, vice-president; James D. Hancock, vice-president; R. E. Erickson,

treasurer; H. L. Zoerner, secretary; and John R. Jones, Jr., assistant treasurer and secretary.

— ★ —

#### **Witt is Noxzema V-P**

Norbert A. Witt, former administrative assistant to the general sales manager of Lever Brothers Co., New York, has joined Noxzema Chemical Co., Baltimore, as vice-president in charge of sales, it was announced last month.

# **WAXES**



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**Mamaroneck 9-4746 • Cable MARGUESO**

**Refinery: Mamaroneck Chemical Div., Mamaroneck, N.Y.**



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This very hard and tough wax can be emulsified using only Amines — without using fatty acids. Ideal for non-ionic emulsions.

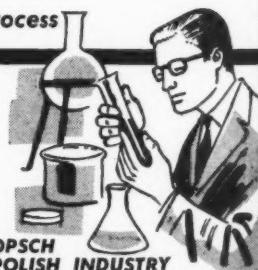


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### New Alpha Aerosol Units

Two new units for filling of aerosol products were announced early this month by Alpha Engineering & Machine Works, Inc., Mt. Prospect, Ill. For positive sealing of plain and plastic coated glass aerosol containers, Alpha has developed the new Model 101 Roll Capper. It features the new, improved floating roller action that allows the roller to conform to variation in plastic coating thickness and irregularity of bottles. Positive control of final crimped diameter prevents cutting of plastic coating and scoring of glass surface, according to Alpha.

The new Alpha "Alpro" filling machine is designed for fast filling of 12 and six ounce aerosol cans. The new Alpha method combines propellant loading with valve sealing. Crimping head seals on container and lifts valve which is previously placed on container, allowing propellant to be filled into container through one inch cap opening. Crimping head lowers crimped valve onto container before seal is broken.

### National Chemical Exhibit

The ninth National Chemical Exposition will be held in Cleveland, O., Nov. 27 to 30, 1956, under the joint auspices of the Chicago and Cleveland sections of the American Chemical Society. A. E. Schneider, Armour Labs., Chicago,

Ferd. Lachman of Paul Koss Supply Co., San Francisco, who was elected western regional vice-president of the National Sanitary Supply Assn. during recent NSSA meeting in Atlantic City.



is chairman of the 1956 Chicago exposition committee and Robert L. Savage, Case Institute of Technology, heads the Cleveland committee.

### New "Freon" Lab

Ground has been broken at Chestnut Run, near Wilmington, Del., for a new half-million dollar laboratory for "Freon" research, it was announced last month by E. I. du Pont de Nemours & Co., Wilmington, Del.

### New Upholstery Cleaner

A new upholstery and carpet shampoo is said to combine proteins with the solvent compound so as to leave fabrics with a lustrous finish after processing. The new cleaner was introduced recently by Grand Rapids Shops, Columbus, O., under the trade name "Shrako." It is claimed to be safe on foam rubber construction, because it requires no soaking or excessive penetration to be effective.

## The PRODUCT DEVELOPMENT Department of Foster D. Snell, Inc.

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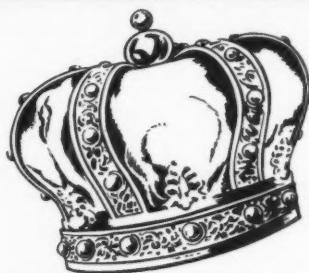
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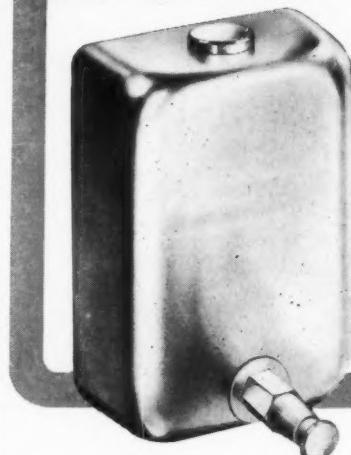
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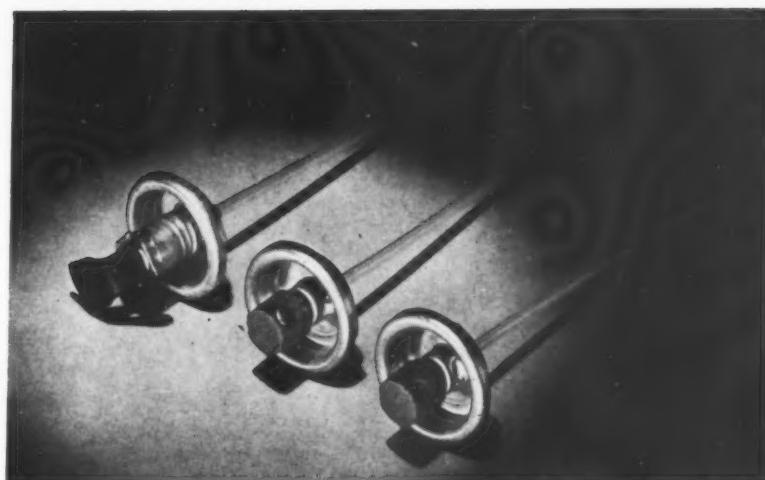
## Sanders Adds Staff, Product

Sanders Chemical Co., Philadelphia, recently announced that Melvin Brod, formerly with Four Seas Co., Philadelphia, has been appointed sales manager in charge of jobber sales. In this capacity Mr. Brod will be responsible for sales of "See," a newly developed paste cleaner to be distributed exclusively through janitor supply jobbers. Sanders has organized a sales force which will work directly with the jobbers on a sanitation program featuring "See."

At the same time Sanders announced that Elliott Rothman and Mitchell Stead are now partners in the firm. Mr. Rothman whose previous associations have been in the sanitation field, will work with Mr. Brod on jobber sales. Mr. Stead has been connected with E. F. Houghton Co. and Rohm & Haas Co., both of Philadelphia.

Another addition to the firm's staff is O. C. Brauner, who has been named research director. Dr. Brauner was formerly with Boyle-Midway, Inc., New York,

Percy C. Magnus, left, president of Magnus, Mabee & Reynard, Inc., New York, receives from Richard C. Patterson, Commissioner of the Department of Commerce and Public Events of the City of New York, the city's Certificate of Merit. The award was presented in recognition of the essential oil and perfuming materials firm's sixtieth anniversary. Representing MM&R at the presentation were Robert B. Magnus and Joseph B. Magnus, vice-presidents; George H. McGlynn, vice-president and treasurer; assistant vice-presidents, William F. Fischer and Arthur H. Downey. Bernard Jeffs, director of advertising for MM&R, acted as chairman.



Three new types of aerosol valves recently announced by Newman-Green, Inc., Addison, Ill., aerosol valve manufacturers. The valves, which feature speed in filling, are designed to handle every type of product. New design is said to overcome clogging.

and R. M. Hollingshead Co., Camden, N. J.

— \* —

## Floor Mach. Makers Elect.

The Floor and Vacuum Machinery Manufacturers' Association recently held its 23rd annual meeting at the Traymore Hotel, Atlantic City, N. J. The following were

elected to the group's board of directors: Ernest Cooper, Clarke Sanding Machine Co., Muskegon, Mich.; N. H. McRae, Multi-Clean Products, Inc., St. Paul, Minn.; R. A. Brackett, Spencer Turbine Co., Hartford, Conn.; Dewey I. Doyle, Sr., Doyle Vacuum Cleaner Co., Grand Rapids, Mich.; James E. Bates, Finnell System, Inc., Elkhart, Ind.; R. J. Pond, Advance Floor Machine Co., Minneapolis; and Gordon E. Kent, Kent Co., Rome, N. Y.

The board reelected Ernest Cooper to a third term as president, and N. H. McRae and Dewey I. Doyle, Sr., as first and second vice-president, respectively. Lyle W. Jones was reappointed executive secretary and treasurer of the association with headquarters at 705 Warner Building, Washington, D.C.

## Zimmerman Velsicol Rep.

The appointment of W. E. Zimmerman as its sales representative in Florida was announced by John F. Kirk, vice-president and sales director of Velsicol Corp., Chicago, recently. Mr. Zimmerman has had extensive sales development experience with chemicals and insecticides. His work included several years in research and development and technical sales for American Cyanamid Co., New York and O. E. Linck Co.



# "BUILT-IN" RUGGEDNESS

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### **Stauffer Names Powell**

A. M. Powell has been named assistant production manager in charge of eastern sulfur and insecticide plants for Stauffer Chemical Co., New York, it was announced last month. Mr. Powell's headquarters will be in Chauncey, N. Y., and he will be responsible for the firm's insecticide production facilities in New Jersey, Missouri, Arkansas, Texas, Louisiana, and Florida.

### **Cleary Joins LoBue**

Thomas F. Cleary has joined Philip J. LoBue Co., New York, as sales manager for fine organic intermediates, it was announced last month. Prior to his recent appointment he was vice-president and director of research for Chemagro Corp., New York. In his new position, Mr. Cleary supervises sales of products distributed by LoBue under its newly acquired agency for Crestwood Chemical Co., Chicago.

### **Hollingshead Distributor**

R. M. Hollingshead Corp., Camden, N. J., recently announced appointment of Brandon Equipment Co., Chicago, as distributor of Hollingshead products to the railroad industry. Initially Brandon will handle only Hollingshead's "Co-coon" line of sprayable plastic products.

### **New Bennett Unit**

Bennett Manufacturing Co., Alden, N. J., recently introduced a new twin towel dispenser kit intended to be clamped on Bennett's self closing flat top waste receptacle. The kit consists of two towel dispensers permanently mounted to a bracket. The dispensers can be clamped on top of the waste receptacle. The device makes for economy in space, and time, since paper towels are fed from both sides of the dispenser. A waterless soap dispensing unit can be mounted to the side of the bracket if desired.

Kits are available in white enamel or chrome finish for single or double fold paper towels. Fur-

ther information on the twin dispenser kit may be obtained by writing to the manufacturer.

### **Swedish Aerosols**

Mechanics and uses of the pressure package are described in an eight-page illustrated folder issued recently by Skandinaviska Aerosol AB, Stockholm, Sweden. This firm has been engaged in custom aerosol packaging for the past two years. It uses both metal and glass containers, and "Freon" and "Genetron" as propellents. The Swedish firm purchases some of the propellents in the United States as well as some of the valves and containers.

### **Dow Shifts Two**

Two personnel changes and formation of a new section of technical service and development by Dow Chemical Co., Midland, Mich., were announced recently by Donald Williams, vice-president and director of sales.

R. E. TenHoor has been appointed supervisor of the newly established industrial chemicals section, set up to provide increased technical service for users of a number of organic and inorganic products.

J. P. Murphy has been transferred from the Chicago sales office to the sales development unit of technical service and development at Midland.

### **Crown Advances Stanley**

John R. Stanley has been appointed sales representative in the New York district for Can Division, Crown Cork & Seal Co., Baltimore, it was announced last month by Robert F. Duemler, vice president in charge of sales. Mr. Stanley has been with Crown for seven years and has served in the New England and Philadelphia areas.

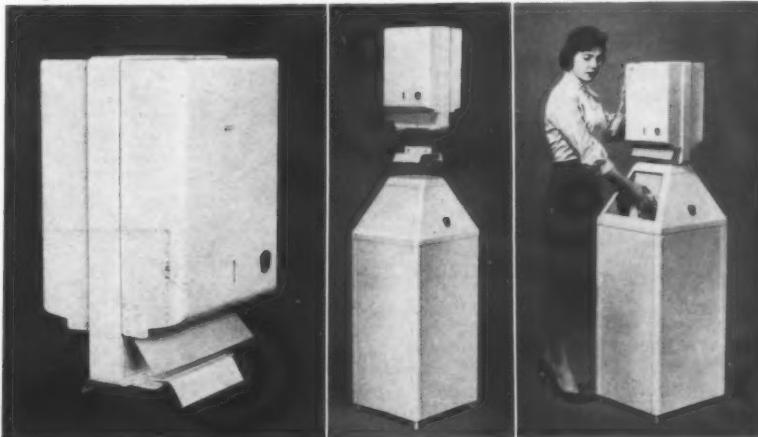
### **Honeywill-Atlas Formed**

Atlas Powder Co., Wilmington, Del., and Honeywill & Stein, Ltd., a British firm, announced recently the formation of a jointly owned company which will be known as Honeywill-Atlas, Ltd., with headquarters at Devonshire House, London W.I. The new company will make available from sterling sources sorbitol and sorbitol derivatives as well as other surface active agents developed by Atlas. L. F. Harris is manager of the new operation.

### **Greenebaum in New Post**

Robert J. Greenebaum has recently been advanced to the position of sales manager of Inland Steel Container Co., drum and pail manufacturing division of Inland Steel Co., Chicago. Mr. Greenebaum had been manager of the division's Chicago manufacturing plant and before that was assistant sales manager.

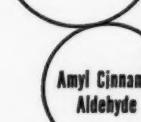
New Bennett twin towel dispenser (left) clamps on bracket (center) for mounting on self-closing, flat top waste receptacle.





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SOAP and CHEMICAL SPECIALTIES

## New Aerosol Tubing

A new dip tubing for aerosols, which it is claimed, will have greater resistance to cracking, was announced recently by Anchor Plastics Co., Long Island City, N. Y. The new tubing, designated "Aeroflex PH", supercedes "Aeroflex P" tubing, which has been widely used in the industry for the past five years.

The new tubing is pink, whereas the earlier type was blue. The new shade will enable manufacturers and users to distinguish the new tubing during in-plant operations. A gold colored tubing is also available for glass aerosols where the dip tube is often clearly visible.

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## Shell Moves Sales Unit

The Agricultural Chemicals Division of Shell Chemical Corp., New York, will move its headquarters to New York City from Denver, Col., around May 15, it was announced by L. V. Steck, vice-president in charge of marketing. The division is Shell's sales organization for insecticides, including aldrin, dieldrin, and endrin. The plant manufacturing these products will remain in Denver, but the sales division under direction of F. W. Hatch is being transferred to 460 Park Avenue, New York, where it



Alvin and Lester Brown were hosts for the first exhibit by a sanitary supply distributor in metropolitan New York, April 13-14. The two day show, sponsored by I. Edward Brown, Inc., New York, brought over 1,000 users and buyers of sanitary supplies to the 50 booths of manufacturers who participated in the show. The two-day show was held at the Hotel New Yorker from 2:00 to 5:00 p.m. and from 7:00 to 10:00 p.m. on April 13, and from 12:00 noon to 6:00 p.m. April 14. Representatives of manufacturing firms who participated were on hand to answer questions about the properties and application of their products. Door prizes and drawings for prizes were a feature of the show.

will occupy the entire ninth floor.

Shell is the second major chemical firm to take space in the new 23-story building. Olin-Mathieson Chemical Corp. has leased 50,000 square feet, approximately one

quarter of the building, to accommodate its executive headquarters.

## New ADM Department

Archer-Daniels-Midland Co., Minneapolis, recently announced formation of a new products development department and appointment of George K. Nelson as the department's director. Dr. Nelson will evaluate the market potential for new products developed by ADM research, will be responsible for introduction of new products and will supervise the firm's market research activities. In addition, the new department will uncover new markets for products currently being made by ADM and determine what new products and processes are needed in industry. Dr. Nelson was previously associated with Celanese Corp. of America, New York, and Shell Development Co., Emeryville, Calif.

New "Super-Cel" assortment of sponges announced recently by American Sponge and Chamois Co., New York. New package contains two oval sponges, and one handi-grip shape. Also included is an Amsco sponge cloth. In a plastic bag the assortment retails for 79 cents.



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**Cuts Clean-up  
Time in Half**

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Here's a mop that snatches up dust on contact. And it's amazingly durable...lasts and lasts. Can be removed from block for washing. Handles can't break due to exclusive new, rugged "Gibraltar" brace...BIG X comes in various widths up to 5 feet! ...It's our leader!

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Your maintenance men will cheer you for ordering VICTORY mops. Soak up dirt and water at high speed. A heavy-duty, long-wearing mop — the choice of thousands of buyers.

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Applicator**

A high-speed performer. Reduces cost of applying wax, seals, varnish. More professional floor finishers use HOLZ-EMS than any other applicator.

**Jobbers** When you sell AMERICAN STANDARD mops you build sound, repeat business. Ask for catalog and prices.

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### New "Lethalaire" Aerosol

Virginia Smelting Co., West Norfolk, Va., recently announced addition of a two and a half pound,



high pressure, throw-away insecticide package as a companion product to its "Lethalaire" brand professional and industrial insecticide pressure packages.

The new "Lethalaire Jr." is available with pyrethrins-piperonyl butoxide and pyrethrins-sulfoxide charges. Other formulations will be announced later.

A special detachable applicator valve has been designed to dispose the contents of this smaller container. This valve is claimed to have made it possible to build into this new package most of the features of the five-pound aerosol, including metered flow, controlled particle size, long period of continuous operation.

### New Hudson Sprayers

A new 10 gallon power sprayer designed for the home user was introduced last month by H. D. Hudson Manufacturing Co., Chicago. Called the "Suburban" it handles all spray solutions at continuous pressure, has a pump capacity of  $1\frac{1}{2}$  gallon/minute, and features a mechanical agitator to keep sediment bearing solutions well mixed. The unit is 21 inches wide and mounted on cushion tire wheels, has adjustable handles. It comes with a double acting pump,

welded galvanized steel tank, large opening for easy filling and cleaning, 10 yard hose and an all-purpose nozzle which adjusts from fog to long range stream. Accessories include a four nozzle lawn boom, a root feeder, and a three nozzle hand spray boom. The "Suburban" is available with either gasoline engine or electric motor.

At the same time two new all-purpose sprayers designated "Hydra-Guns" were introduced by Hudson. Said to handle all sprayable solutions, these units feature a half-gallon jar container, high-pressure brass pump with a new nozzle, known as "Roto-Spray" and adjustable to any spray from fog to long distance and to any angle within  $360^\circ$ . The jars are interchangeable with standard fruit jars. "Hydra-Gun, Jr." sprayer has a single action pump with a spraying range to about 20 feet. "Hydra-Gun, Sr." has a slide-type pump that sprays on both in and out stroke, ranging about 30 feet. Jar labels are enamelled and supply use and care information.

### Washburn Has New Number

T. F. Washburn Co., Chicago, has a new telephone number. It is ALbany 2-0600.

### New Blow Jet Gun

Spraying Systems Co., Bellwood, Ill., last month introduced a new blow jet gun for fast drying and blow-off. The gun features a seven inch tip with an orifice providing a flat fan air pattern for wide area coverage. Overall length from orifice to tip of body is  $10\frac{1}{4}$  inches.

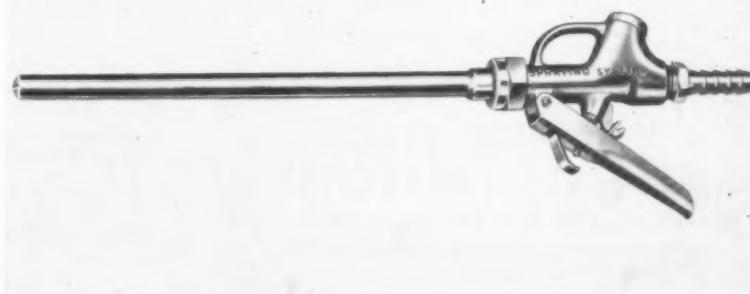
### Koch in New Mobay Post

Charles O. Koch has been appointed technical service superintendent by Mobay Chemical Co., St. Louis, Mo., for its new isocyanate plant at New Martinsville, W. Va., it was announced recently. Mobay is jointly owned by Monsanto Chemical Co., St. Louis, Mo., and Farbenfabriken Bayer, A. G., Leverkusen, Germany. Mr. Koch joined Monsanto in 1934 as laboratory assistant, later attended college while on leave of absence and returned to Monsanto in 1941. He has been working on the Mobay project since June 1954.

### Shulton Buys Maschmeijer

Shulton, Inc., Clifton, N. J. has bought the major assets of A. Maschmeijer, Jr., Inc., Newark, N. J., it was announced recently by George L. Schultz, Shulton president. The business will be operated as A. Machmeijer, Jr., Division of Shulton, Inc. Operations of the divisions will remain in Newark retaining the same personnel. Aromatic sales will be handled from offices at 630 Fifth Avenue, New York. Synthetic menthol and the nitro musks are foremost among Machmeijer Jr's products.

The body of the gun houses a positive action shut off valve. A trigger lock is provided for comfort in prolonged operations. The unit comes with tips of two sizes and with a three eighths of an inch hose tail piece. For complete information request data sheet 5998 from Spraying Systems Co., 3217 Randolph Street, Bellwood.



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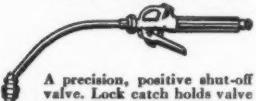
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## Insecticides Aid Sanitation Seminar Told

THE intelligent use of insecticides and sanitary chemicals is a big help in keeping filth out of the nation's food supplies, Walter W. Dykstra of the Fish and Wild Life Service of the U. S. Dept. of the Interior, told a sanitation seminar Apr. 14. The one-day meeting, sponsored by Arwell, Inc., Waukegan, Ill., sanitation and pest control firm, was held at the Sheraton Hotel, Chicago.

If intelligent sanitation and pest control were not practiced, Mr. Dykstra declared, the amount of filth getting into our feed would be much larger than it actually is. Much of the potential contamination can be prevented, he said, by practicing sanitation more intensively, by eliminating food and shelter for the offending pests and using pesticides intelligently. These, he emphasized should not be considered a substitute for sanitation but a supplement to it.

The nation's grain sanitation problem has been greatly magnified by the government's surplus grain control program of the past twenty years, another speaker, Howard O. Hunter, executive director of the American Institute of Baking, pointed out. By midsummer, he stated, the government will have control of 1,200,000,000 bushels of wheat. Much of this will have to be stored outdoors because other acceptable storage facilities are not available, he said.

Mr. Hunter reviewed the Food & Drug Administration's actions to enforce the laws on contaminated grain and the "violent opposition" this effort has encountered. Much of the conflict, he charged, is due to political pressure on grain belt Congressmen.

He had some caustic comment, too, for one government agency, the Commodity Credit Corporation, which administers the surplus grain control program. CCC, he intimated, has been most vocal in obstructing the movement to clean up the stored grain stocks.

A "Committee of Fifteen," organized to develop a grain sanitation program, he went on, has completed its report, but its release has been delayed. A long range educational program, proposed by some, Mr. Hunter asserted, is impractical. The Millers National Federation, he said, is asking that grain standards be revised, so that grain for human consumption is graded on a different basis than that for animal use and that the Food & Drug Administration should be supported in its efforts to enforce the law. He urged support of these two recommendations by his audience, representing a score of varied food processing industries.

Dr. George C. Decker, entomologist with the Illinois Natural History Survey, Urbana, and president of the Entomological Society of America, declared that, while the Food & Drug Administration confiscates tons of food every year, very little of it is seized because it is contaminated by pesticides. Most of the seizures, he said, are made because of filth in the stocks.

"You will want to take a new look at labels pesticide manufacturers place on their containers," Dr. Decker told his audience. These small strips of paper, he said, are "the most expensive, highest priced

New Dr. Hess Water Soluble Rat and Mouse Killer is packed in colorful display dispensers. Each dispenser contains two dozen 1½ oz. packets, and feeds them out one at a time. The packets retail for about 50 cents each. Made by Dr. Hess & Clark, Ashland, O.



bits of literature in existence." Millions of dollars, he pointed out, are spent by the manufacturers to get the accurate data summarized in a few lines on these labels.

"If you read the labels and are governed by what they say," he said, "you can rely on it that all will be well. If you don't read them, you take a calculated risk."

In a review of developments in dairy sanitation, Dr. W. L. Mallman, professor of bacteriology and public health at Michigan State College, declared that more progress has been made in dairy sanitation than in any other area of food processing.

Pasteurization has the disease hazard in milk under control, he said. Quality standards are, however, now threatened by the recently adopted new practice of bulk storage on the farm and by changing methods of handling milk in the processing plant.

Milk is now held in storage between cow and consumer longer than in the past, so bacteria which are fond of low temperatures are flourishing, Dr. Mallman said. These "psychrophiles" — organisms that like low temperatures — are responsible for off flavors and loss of quality in milk, he said. If they appear after pasteurization, he warned it indicates that the equipment is unsanitary.

Professor John V. Osmun of Purdue University's entomology department discussed house flies, blow flies and fruit flies, modern chemicals and equipment for their control. The Arwell seminar program included, also, a lecture on insect life in stored grain, presented by Wm. H. Schoenherr, director of sanitation and research for Lauhoff Grain Co., Danville, Ill. He illustrated his remarks with colored photographs of the insects.

John D. Mock of Arwell's staff of entomologists, in closing the day-long conference, directed attention to the possibility that the Khapra beetle, which has recently appeared in west coast grain areas may, in the near future, show up in



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the midwest. He distributed a report outlining present knowledge of this pest, which had been prepared and mimeographed under his direction. On view at the meeting was a series of photographs, made by Dow Chemical Co., showing the method of handling a recent fumigation job to control the Khapra beetle.

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### Cyanamid Names Little

H. C. Little was recently named assistant general manager of the agricultural chemical division of American Cyanamid Co., New York, it was announced recently by K. C. Towe, president. Mr. Little succeeds Horace V. Cory.

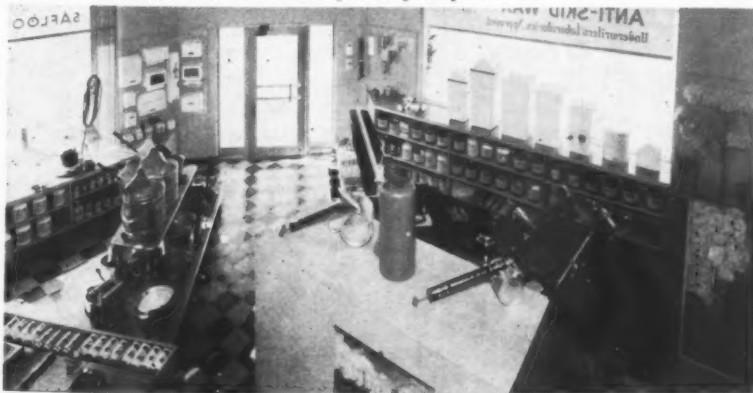
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### Mission Enlarges Office

Mission Chemical Co., San Diego, Calif., has enlarged and remodelled its offices and has added an extra floor to its plant facilities, it was announced last month by Howard Johnson, owner and manager of the 32-year old sanitary supply firm.

Racks on the enlarged display floor hold sales stock and samples of nearly all of the 300 items carried by the firm. Clear floor areas permit demonstration of manually and power operated floor maintenance equipment. The floor is covered with asphalt tile for effective demonstration of endurance and other qualities displayed by waxes carried by the firm. Opening of the remodelled offices was celebrated by a week-long open house.

Portion of the newly remodeled sales floor of Mission Chemical Co., San Diego. As the result of an extensive remodeling program, sales floor and general office area have been increased by nearly 50 percent.



### APHA Meeting Set

The 83rd annual meeting of the American Public Health Association and 40 related organizations will be held in Kansas City, Mo., Nov. 14 through 18. More than 5,000 public health workers from all parts of the world are expected to attend. Among topics to be presented in 400 papers during 75 sessions will be accidental poisoning, sanitation for industrial workers, environmental standards for school health, etc.

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### Plant Maintenance Topics

The Second Western Plant Maintenance and Engineering Show, to be held at the Pan Pacific Auditorium, Los Angeles, July 12 to 14 will feature as a concurrent event an expanded program of technical conferences at the Ambassador Hotel. Preventive maintenance, corrosion, and building maintenance are among the topics slated for discussion.

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### Aerosol Moth Proofer

"Frostex," a pressure packed mothproofing formulation by Lewy Chemical Co., New York, was featured in the March issue of *Dow Diamond*, house organ of Dow Chemical Co., Midland, Mich. The product incorporates "Paradow," (Dow's brand of paradichlorobenzene); 1,1,1-trichlorethane (solvent); and "Genetron" propellant. Said to be stainless and non-flammable, "Frostex" permits the house-

wife to treat clothes while they are hanging on a line. Part of the spray quickly evaporates leaving a coating of white crystals serving as an indicator where the garment has been sprayed. The mothproofed materials must be stored in an airtight container to make effective the vapor into which the white crystals are gradually transformed.

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### Aerosol Regulations

The 88-page report, "Agencies and Regulations of Interest to the Pressure Packaging Industry," of the Committee on Public Regulations, Aerosol Scientific Committee, was issued recently by the Chemical Specialties Manufacturers Association, 50 E. 41st St., New York 17, N. Y. Price of the book, which is the second edition, is \$6.00.

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### New Bubble Bath

A new brand of bubble bath trade named "Aquafoam" was introduced recently by Amole, Inc., Dayton, O. The product softens the water, preventing formation of the undesirable ring around the tub. The bubbles are said to stand up when soap is being used. "Aquafoam" retails at one dollar a pint.

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### Air Pollution Poll

An opinion survey on odors and fumes as air pollution problems was conducted recently by Pendray & Co., New York, at the request of industrial clients. The survey covered chief public officials responsible for control of air pollution in 67 major industrial cities.

Industry has emerged as the chief offender, with chemicals and paint and varnish leading. Soap and detergent plants rank sixteenth in a list of seventeen categories. Difficulty and expense incurred by industry in trying to solve the odor and fume problem, combined with lack of scientific standards on which to base regulations, has resulted in a relatively lenient enforcement program up to date, according to the officials questioned. Public feeling demanding odor control has been found on the increase.

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## Liquid Detergents

(From Page 57)

usually more constant in temperature. Furthermore, it is believed that a cold water rinse will give a more direct measure of detergency by minimizing the effect of rinse.

e. Rack plates to drain and dry.  
f. At one minute and 55 seconds from zero time place a third soiled test piece under the second and after exactly two minutes from zero time wash second test piece, rinse, and drain as in steps (b), (c), (d), and (e).

g. Continue to wash as many test pieces as needed to reach the end points. (See section 6).

6. The End Points of Test—two end-points are observed and recorded

a. Suds end point. This end point is reached when only a thin layer of suds is visible over approximately one-half the area of the dishpan. Record the number of test pieces washed to reach this end point.  
b. Detergency end point. Preliminary examination is made under ordinary light to determine approximately how many test pieces are needed to reach this end point. Wash several more plates beyond this expected end point. Final examination is made with an ultraviolet lamp in a special box made for this purpose. Grade washed test pieces as follows:

| Rating | Appearance under Ultra-violet Light   |
|--------|---|
| 0      | No visible soil   |
| +      | Traces of soil (Not detectable by ordinary light)                               |
| ++     | Satisfactory under ordinary light but definite spotting under ultraviolet light |
| +++    | Visible under ordinary light but heavy spotting under ultraviolet light         |
| ++++   | Heavy deposit under ordinary light. Usually film of fat present.                |
| +++++  | Very bad.   |

The detergency end point is recorded as the total number of plates washed with a grade of ++ or better. (i.e., number of plates which are passable under ordinary light.) Occasionally there may be a "skip," i.e., see table below.

| Plate No. | Rating |
|-----------|--------|
| 1         | —      |
| 2         | —      |
| 3         | +      |
| 4         | +      |
| 5         | +      |
| 6         | ++     |
| 7         | ++     |
| 8         | ++     |
| 9         | ++     |
| 10        | +++    |
| 11        | ++     |
| 12        | +++    |
| 13        | +++    |

Procedures 1 and 2 were circulated to the laboratories indicating their interest in cooperating in the project. To assist this group effort participating members sent out samples of detergents and other critical test materials from the same lot (such as tallow used in Procedure 2) in order to eliminate some possible sources of error. Four liquid detergents were selected and, of these, two were specially compounded products designed for hand dishwashing and two were liquid synthetic detergents of different classes which could be used in compounded formulations. The liquid detergents to be used were "Triton X-100," "Liquid Lux," "Ultrawet 60L," and "Joy." Prior to using these two procedures, the conditions of test were more clearly defined by establishing that:

- (1) The detergents would be tested on an "as is" basis rather than an active basis because of the questionable nature of what constitutes the active portion.
- (2) Hard water would be made in accordance with the U. S. Navy Bureau of Ships Manual 51-I-19, August 15, 1946 (0.2345g Ca Cl<sub>2</sub> 2H<sub>2</sub>O and 0.2680 gm Mg Cl<sub>2</sub> 6 H<sub>2</sub>O dissolved in one liter distilled water will give 300 ppm hard water; and 167 ml of this solution diluted to one liter with distilled water will give 50 ppm water).
- (3) The concentration of detergent used would be actually the grams of solute per 100 ml of solvent and not a true percentage.

Other than these precautions and those outlined in Procedures 1 and 2 no other steps toward extreme precision were taken. This was an exploratory run with some laboratories taking part which had never worked with these procedures. The results for Procedure 1 are shown in Table II and the results with Procedure 2 in Table III.

The conclusions from the test results shown in Tables II and III

were of a general nature. Since some laboratories were getting the "feel" of this type method for the first time, the conclusions were made relative to the scope of the project and not details of methods.

## Conclusions:

- (1) A greater spread was shown between detergents with Procedure 1 than with Procedure 2.
- (2) With Procedure 1, carbohydrate soil B gave good differentiation between detergents, showed good agreement in order of performance of detergents with grease soil A, but the number of dishes washed to suds end-point was greater indicating the grease soil A to have a greater effect on foam stability.
- (3) The agreement between laboratories in order of performance of the detergents to the suds end-point was very good with Procedure 1 and was fair with Procedure 2.
- (4) The time required to wash eight plates as used in Procedure 1 seemed very erratic and of little consequence.
- (5) The detergency end-point used in Procedure 2, as would be expected, showed some very interesting results, and as recognized previously, this technique has excellent possibilities of being developed further.

At the December 6, 1953 annual CSMA meeting the results were discussed. It was evident that the entire program would have to be condensed to concentrate more on the details. The participating members of the committee indicated a preference for Procedure 1 as the method to be used for further test work. This procedure is simpler and easier to use than the more refined Procedure 2. The procedure to be used for further work was basically Procedure 1 but it will be called Procedure 3 on account of

(Turn to Page 242)

minor changes and for reporting data.

*Procedure 3*

Surface: Regular dinner plates (in good condition) about nine inches in diameter

Soil: 48% Crisco  
50% Flour  
2% Oleic acid  
0.05% Fluorescent dye or Oildag or lamp-black

Amount of Soil: 1 level teaspoon

Soil Applied: Warm (100-120°F) spread evenly as practical

Dishpan: Conventional

Washing Solution: 0.10% detergent "as is" (0.10 gm/100 ml.)

Method of Adding Water: Dissolve 4.0 gms. detergent in one liter of water at 115° F and place in dishpan. Add the other three liters from a height of 24 ins. above pan through a half gallon funnel. Let stand 30 seconds.

Washing Technique: Place two soiled plates in pan at one time. Wash individually in normal fashion with dishcloth. It is not necessary to main-

End Point:

tain temperature of wash solution.

Wash to suds end-point. This end point is reached when only a thin layer of suds is visible over approximately one half of the area of the dishpan. Record the number of test plates to test this end-point.

**Results with Procedure 3**

THE laboratories working with Procedure 3 made a concerted effort to evaluate the procedure. Several laboratories were able to let more than one operator work with the method. This kind of testing shows what can be accomplished by a large number of people working with one purpose. The overall results are considered very good and these are shown in Table IV.

Conclusions drawn from results shown in Table IV:

(a) The degree of reproducibility for the method between different laboratories is very good even though the level of results

differs between laboratories.

(b) Different operators within the same laboratory were able to reproduce results within the degree of reproducibility of the test. This may be attributed to the fact that these operators could discuss and agree upon end-points and other finer details of the method. Note the difference in results obtained by Economics Laboratories using two different end-points, and an end-point by this type of procedure is an equivocal matter.

(c) More rigid specifications for parts of the tests were believed to be necessary for further improvement.

The C. S. M. A. Committee will continue investigating these methods in an attempt to make as many refinements as possible in order for these techniques to be practical and useful in furthering research work on detergents.

The program was made pos-

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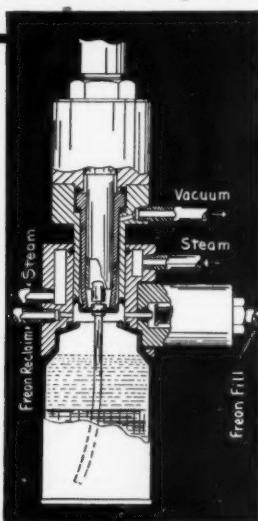
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#### **Future Plans**

THE committee will continue the investigation of methods and improvement of methods for evaluating foam and foam stability qualities of liquid detergents. The general outline of this program is (1) to seek refinements for the dishpan test, (2) to look for simpler methods which could give the same net result as the dishpan method and (3) to look more into the deter-

gency properties of liquid detergents.

Louis E. Wells, Jr.  
Sub-Committee Chairman  
Soap, Detergent and Sanitary Chem-  
Div.  
Chemical Specialties Manufacturers  
Assoc.

— ★ —

#### **Tells Of P&G Expansion**

Expansion and growth were the theme of R. R. Deupree, chairman of Procter & Gamble Co., Cincinnati, who spoke at the 50th anniversary celebration of the company's Kansas City plant. Competition and research are the two most important characteristics of healthy growth, he said, and described how P&G found it necessary to add one third more space to its three-year-old research laboratory. The company has today 50 plants with a total production capacity 100 times that of 50 years ago, according to Mr. Deupree. The company has spent more on plants in the past 10 years than during the first 100 years of its history, with the ad-

vent of synthetic detergents alone having obsoleted approximately half of the company's 1945 plant equipment, according to the chairman's talk.

While Mr. Deupree was expressing his confidence in P&G's future growth, the company announced plans to build a multi-million dollar plant in Iowa City, Ia., to produce shampoos, dentifrices, and home permanents. Scheduled for completion in the fall of 1956, the plant will be the firm's first to produce its complete line of toilet goods. Initially about 200 people will be employed.

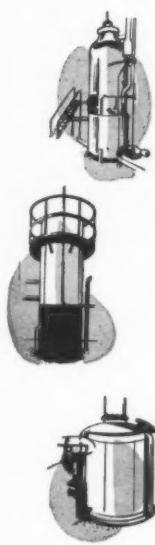
#### **Fallek Sells German SFAs**

Fallek Products Co., New York, is distributor in the United States of the nonionic surface active agents made by Deutsche Hydrierwerke G.M.b.H., Duesseldorf, Germany. The firm makes fatty alcohols of various derivations, fatty alcohol sulfates, high boiling solvents, emulsifying agents and a number of specialties.

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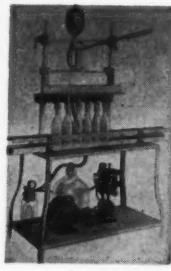
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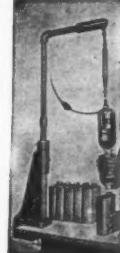
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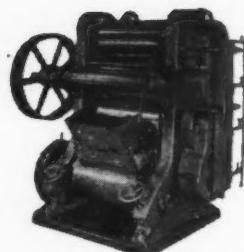
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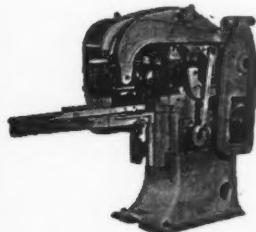
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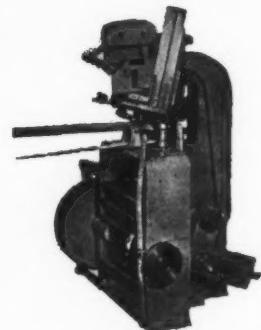
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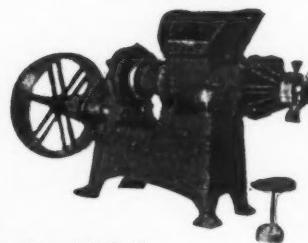
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(Continued on Page 249)



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**Chemical Salesman:** B. A., 28, married, two years experience selling to soap, cosmetic, and miscellaneous industries in Chicago area. Desires connection in Chicago or Northwestern states. Address Box 442, c/o *Soap*.

**Chemist:** Widely experienced in waxes, polishes, emulsions, floor coatings, automotive chemicals, household products, — desires connection with progressive firm. Metropolitan New York area preferred. Experienced in production, development and research. Address Box 437, c/o *Soap*.

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## Standard Reference Books:

See page 254

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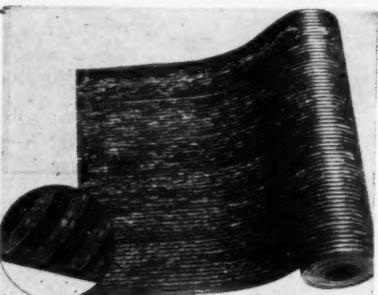
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**Reader Sees It**

(From Page 43)

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You will be proud to know that translations of technological English are all made from *Soap and Chemical Specialties* magazine, because in my opinion as a leading professor in these subjects, this is where the best articles and works are published, and by the best scientific and technical people in these fields.

As soon as copies of the new edition are available I will send several to you. Persons wishing copies can order them through your firm and we will mail the copies direct from Cuba.

ERNEST T. BOEHME,  
Chief Professor of Soaps,  
Detergents, Perfumes and  
Cosmetics,  
Escuela Técnica Industrial  
"General Jose B. Aleman"  
Havana, Cuba

We are glad to hear from Professor Boehme after these many months because of the considerable interest manifested in his vocabulary. As soon as we receive copies and the price has been determined we will make them available to our subscribers. Ed.

— ★ —

**Product Liability Insurance**

Editor:

I really enjoy reading your magazine and look forward to each issue. Being a small manufacturer and repacker of chemicals I have become interested in product liability insurance. I have had a little difficulty in finding out about such insurance, however. One thing I have learned is that the requirements that must be met in order to obtain such coverage are rather stiff. Some of the agents with whom I have checked require a chemist to be present during the processing or manufacture of chemical products.

Do you know of any companies whose requirements are not so rigid. I'm sure this information would be helpful to many small companies such as mine which pres-

ently are not covered by product liability insurance.

I am willing to comply with all the regulations, but I can't at present hire a chemist for small batches of chemical formulations. I would appreciate any other information you may have.

FERDINAND T. WEGLARZ,  
Chicopee, Mass.

In the March issue of *Soap & Chemical Specialties* we listed the names of three insurance companies that have product liability insurance. There are others. We would suggest that you write to the state commissioner of insurance, or the equivalent official in Massachusetts and enlist his help. Possibly a part-time consultant is the answer to your problem. The Professional Directory page of this magazine carries the names of consultants who may be of assistance. Ed.

— \* —

**Thanks . . .**

Editor:

Thanks for the news story and picture of our new plant which appeared in the March issue of *Soap & Chemical Specialties*. We have had a number of interesting calls which were the outgrowth of this article.

N. P. SMITH, president  
Klix Chemical Co.  
S. San Francisco

---

**Company Earnings**

(From Page 77)

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\$13,620,852 for 1954, compared with \$14,120,582 in the previous year, and a net loss of \$62,753 for 1954, compared with a net profit of \$15,354 in 1953. However, first quarter sales for 1955 show an increase of 12 percent over the first quarter of 1954.

Helen Curtis Industries, Inc., Chicago, reported net sales of \$23,844,277 in 1954, compared with \$17,911,465 in 1953; net income in 1954 was \$1,014,414, as against \$616,512 in 1953; and common share earnings in 1954 of 69 cents against 41 cents in the preceding year.

Sales of American Cyanamid Co., New York, in the first quarter of 1955 reached an all-time high.

First quarter 1955 sales were \$111,643,000, compared with \$98,205,000, for the first quarter of last year and \$104,266,000 for the fourth quarter of 1954. Consolidated net earnings rose to \$9,454,000 or \$1.02 a common share from \$7,603,000 or 87 cents in the first quarter of 1954. Common stock outstanding rose to 8,728,810 on March 31 from 8,722,921 shares on Dec. 31, 1954, as a result of conversions of preferred stock. Earnings before taxes were estimated at \$18,454,000 compared with \$14,303,000 a year earlier. Provision for taxes amounted to \$9,000,000 compared with \$6,700,000.

Rohm & Haas Co., Philadelphia, reported for the first quarter of 1955 a rise of net income to \$4,233,000 from \$2,859,000 in the corresponding quarter in 1954. Common share earnings rose from \$2.87 in 1954 to \$4.28 in 1955.

Virginia-Carolina Chemical Corp., Richmond, Va., reports for the first quarter of 1955 a consolidated net income of \$824,934 and share earnings of \$3.87, compared with \$1,331,656 and \$6.25 in the corresponding period of last year. For the nine months ending March 31, 1955 consolidated net income was \$713,968, and preferred share earnings were \$3.35, compared with \$1,883,001 and \$8.84 for the comparable preceding period.

Commercial Solvents Corp., New York, for the quarter ended March 31, 1955, reports net earnings of \$814,186, equal to 31 cents per share of common stock, compared with \$626,634 and 24 cents in the comparable quarter of 1954. Sales for the first three months of 1955 were \$12,946,209, against \$11,989,382 in 1954.

Lehn & Fink Products Corp., New York, reported a sharp drop in earnings for the nine months ending March 31, 1955. The company had a net income of \$423,317 for the period. A year ago its earnings were \$746,001.

Allied Chemical & Dye Corp., New York, reported sales and operating revenues of \$149,-

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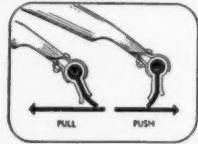
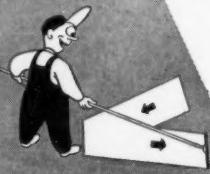
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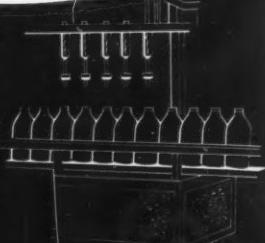
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467,812 in the first quarter of 1955, an increase of 12 percent over \$133,095,236 for first three months of 1954. Net earnings in the quarter ended March 31, 1955 amounted to \$11,708,486 or \$1.29 each on the 9,110,020 average number of shares outstanding. This compares with \$10,206,286 or \$1.15 each on 8,858,370 shares in 1954. Profits before taxes were \$21,857,043 and \$19,099,934 in the respective periods.

Continental Can Co., New York, reported for the first quarter of 1955 net sales of \$134,492,535, compared with \$127,980,757 last year, representing an increase of 5.1 percent. Earnings per common share were 84 cents for the first quarter of this year against 81 cents for the corresponding period of last year.

#### — ★ — **Becco Advances Shutts**

Becco Chemical Division, Food Machinery and Chemical Corp., Buffalo, N. Y., recently announced that Albert L. Shutts has been placed in charge of sales and customer service operations in the New York territory. He succeeds Eric A. Hansen, former manager of the New York territory who retired April 1 to devote full time to his own business in Florida.

Mr. Shutts had been Mr. Hansen's assistant before his present appointment. He will be assisted by Edward M. Roth, Jr., who has been a member of Becco's research and development department since he joined the firm in 1936. During World War II he served with the U. S. Air Force. More recently he handled research and customer work connected with the use of sodium perborate and other specialty peroxygen compounds.

#### — ★ — **Michigan Reelects Marvin**

Theodore Marvin was reelected chairman of the board at the annual stockholders meeting of Michigan Chemical Corp., Saint Louis, Mich., it was announced last month. Mr. Marvin is president of Michigan Chemical.

#### **AOCS Reelects Officers**

Re-election of officers by mail-balloting for the 1955-56 term was announced at the 46th annual meeting of the American Oil Chemists Society held last month at the Roosevelt Hotel, New Orleans. Officers are: W. A. Peterson, Colgate-Palmolive Co., Jersey City, N.J., president; T. H. Hopper, Southern Regional Research Laboratory, USDA, New Orleans, vice-president; R. W. Bates, Armour & Co., Chicago, secretary; and A. F. Kapecki, Wurster & Sanger, Inc., Chicago, treasurer.

Reelected as members-at-large for the governing board were: H. C. Black, Swift & Co., Chicago; J. J. Ganucheau, Southern Cotton Oil Co., Gretna, La. Third member chosen was N. D. Embree, Distillation Products Industries, division of Eastman Kodak Co., Rochester.

In addition, four past presidents will serve on the governing board: C. E. Morris, Armour & Co., Chicago; Procter Thomas, Procter & Gamble Co., Cincinnati; E. M. James, consultant Swarthmore, Pa.; and J. R. Mays, Jr., Barrow-Agee Laboratories, Inc., Memphis, Tenn.

#### **CSMA Meets**

(From Page 161)

are the Insecticide Division and the Aerosol and Disinfectant and Sanitizers Divisions, which meet jointly.

The results of the aerosol survey were to be reported on at the aerosol divisional meeting the morning of May 16, by Frederick G. Lodes of Precision Valve Co., Yonkers, N. Y. This survey included figures on valves, fillers and containers. The insecticide and brake fluid surveys were to be presented during the divisional meetings of those groups on Monday afternoon, May 16.

The general chairman of the program committee is Harry E. Peterson, Continental Filling Corp., Danville, Ill., second vice-president of CSMA. General vice-chairman is Donald M. King of Masury-Young Co., Boston.

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### Coming Meetings

American Public Health Association, 83rd annual meeting, Municipal Auditorium, Kansas City, Mo., Nov. 14-18.

Association of American Soap & Glycerine Producers, Inc., 29th annual meeting, Waldorf-Astoria Hotel, New York, Jan. 25-27, 1956.

Chemical Market Research Association, annual meeting, Plaza Hotel, New York, May 18, 19.

Chemical Progress Week, May 16-21.

Chemical Specialties Manufacturers Association, 41st mid-year meeting, Drake Hotel, Chicago, May 16-17; 42nd annual meeting, Roosevelt Hotel, New York, December 5-7.

Drug, Chemical and Allied Trades Section of the New York Board of Trade, Pocono Inn, Pocono Manor, Pa., Sept. 22-24.

Entomological Society of America, annual meeting, Netherlands Plaza Hotel, Cincinnati, Nov. 29-Dec. 2.

Exposition of Chemical Industries, Commercial Museum and Convention Hall, Philadelphia, Dec. 5-9.

National Chemical Exposition, Public Auditorium, Cleveland, Nov. 27-30.

National Pest Control Association, 22nd annual convention, Denver, Colo., Cosmopolitan Hotel, headquarters hotel, Oct. 17-20.

Packaging Machinery Manufacturers Institute annual meeting, The Homestead, Hot Springs, Va., September 15-18.

Society of Cosmetic Chemists, semi-annual technical meeting, Biltmore Hotel, New York, May 13.

Synthetic Organic Chemical Manufacturers Association, monthly luncheon meetings, Commodore Hotel, New York, Sept. 14, Oct. 11; annual dinner, Dec. 1; annual outing in conjunction with MCA, Greenbrier Hotel, White Sulphur Springs, W. Va., June 9-11.

Western Plant Maintenance & Engineering Conference and Show, Pan Pacific Auditorium, Los Angeles, July 12-14.

# Index to ADVERTISERS

|   |                |  |                  |
|---|----------------|--|------------------|
| Aerosol Research Co.                                | 141            | Haviland Corp., Warren                                   | 248              |
| Air-Kem, Inc.                                       | 185            | Hercules Powder Co.                                      | 28, 194, 210     |
| Alpha Engineering & Machine Works, Inc.             | 242, 243       | Hill Top Research Institute, Inc.                        | 245              |
| Alsop Engineering Corp.                             | 120            | Hilton-Davis Chemical Co., Div.                          | Betw'n 94 & 95   |
| American Cyanamid Co.                               | 35             | Hooker Electrochemical Co.                               | 19               |
| American Standard Mfg. Co.                          | 234            | Houchin Machinery Co.                                    | 102              |
| Andersen, Dr. Carl N.                               | 245            | Hudson Laboratories, Inc.                                | 245              |
| Antara Chemicals Div., General Aniline & Film Corp. | 78             | Hysan Products Co.                                       | 7                |
| Argueso & Co., M.                                   | 225            | Jefferson Chemical Co.                                   | 138              |
| Armour & Co.  | 24             | Johns-Manville   | 20               |
| Aromatic Products, Inc.                             | 4th Cover      | Jones & Co., R. A.                                       | 38               |
| Atlantic Refining Co.                               | 84             | Jones & Laughlin Steel Corp.                             | 58               |
| Atlantic Stamping Co., The                          | 230            | Kissner Industries, Inc.                                 | 136              |
| Baird & McGuire, Inc.                               | 160            | Kontro Co., The  | 236              |
| Ball Brothers Co.                                   | 60             | Koppers Co.  | 220              |
| Bareco Oil Co.                                      | 148            | Kurpfalz Chemical Co.                                    | 250              |
| Barr & Co., G.                                      | 135            | Lancaster, Allwine & Rommel                              | 245              |
| Bennett Industries                                  | 114            | Lewers, Dr. W. W.  | 245              |
| Blockson Chemical Co.                               | 17             | Mac-Lac Co., The   | 212              |
| Bradshaw-Praeger & Co.                              | 214            | Magnus, Mabee & Reynard, Inc.                            | 186              |
| Buckingham Wax Co.                                  | 250            | Mantrose Corp., The                                      | 202              |
| Builders Sheet Metal Works, Inc.                    | 248            | Marchon Products, Ltd.                                   | 94               |
| Bush & Co., W. J.                                   | 124            | Mathieson Chemicals Div., Olin Mathieson Chemical Corp.  | 86               |
| Candy & Co.   | 14             | Maywood Chemical Works                                   | 74               |
| Central Can Co.                                     | 62             | McCutcheon, J. W.  | 245              |
| Chase Products Co.                                  | 150            | McLaughlin Gormley King Co.                              | 149              |
| Chemical Service of Baltimore, Inc.                 | 145            | Mercantile Wax Division                                  | 244              |
| Chris Co., Antoine                                  | 26             | Mione Mfg. Co.   | 214              |
| Clayton Corp.                                       | 132, 133       | Mojonnier Associates, Inc.                               | 170, 171         |
| Columbia-Southern Chemical Corp.                    | 30             | Molnar Laboratories                                      | 245              |
| Connecticut Chemical Research Corp.                 | 154            | Monsanto Chemical Co.                                    | 8, 9             |
| Consolidated Packaging Mach'y Corp.                 | 124            | Moore Brothers Co.                                       | 228              |
| Continental Can Co.                                 | 71             | Moran Brush Mfg. Co.                                     | 218              |
| Continental Filling Corp.                           | 176            | Motomco, Inc.  | 216              |
| Continental Oil Co.                                 | 29             | National Aniline Division                                | 73               |
| Cowles Chemical Co.                                 | 88             | National Milling & Chemical Co.                          | 101              |
| Cox, Dr. Alvin J.                                   | 245            | Newman-Green, Inc.                                       | 212              |
| Davies-Young Soap Co.                               | 216            | Newman Tallow & Soap Mach'y Co.                          | 246              |
| Diehl & Co., Wm.                                    | 248            | Niagara Alkali Co.                                       | 21               |
| Dodge & Olcott, Inc.                                | 2nd Cover      | Ninol Laboratories, Inc.                                 | 11               |
| Douglas Chemical Co.                                | 245            | Nitrogen Division, Allied Chemical & Dye Corp.           | 33               |
| Dow Chemical Co.                                    | 90             | Norda Essential Oil & Chemical Co.                       | 31               |
| du Pont de Nemours & Co., E. I.                     | 37, 147        | O'Donnell, James P.                                      | 245              |
| Dura Commodities Corp.                              | 226            | Oil Specialties & Refining Co.                           | 240              |
| Durez Plastics & Chemicals, Inc.                    | 188            | Old Empire, Inc.   | 238              |
| Eastern Can Co.                                     | 219            | Olin Mathieson Chemical Corp., Industrial Chemicals Div. | 86               |
| El Dorado Oil Works                                 | 118            | Onyx Oil & Chemical Co.                                  | 152              |
| Emery Industries, Inc.                              | 10             | Oronite Chemical Co.                                     | 18               |
| Emulsol Chemical Corp.                              | 139            | Owens-Illinois Glass Co.                                 | 68, 69           |
| Ertel Engineering Corp.                             | 122            | Pacific Coast Borax Co.                                  | 40               |
| Fairfield Chemical Division                         | 159            | Packer Machinery Corp.                                   | 252              |
| Federal Varnish Division                            | 142            | Paul & Co., J. C.  | 248              |
| Feltion Chemical Co.                                | 92             | Paul & Stein Bros., F. H.                                | 238              |
| Fine Organics, Inc.                                 | 208            | Pennsylvania Refining Co.                                | 238              |
| Finetex, Inc.                                       | 122            | Perry Brothers, Inc.                                     | 222              |
| Florasynth Laboratories, Inc.                       | 206            | Petrolite Corp.  | 157              |
| Fluid Chemical Co.                                  | 192            | Philadelphia Quartz Co.                                  | 80               |
| Franklin Research Co.                               | 220            | Plax Corp.   | 70               |
| Fries & Fries, Inc.                                 | 240            | Polak & Schwarz, Inc.                                    | 22               |
| Fritzsche Brothers, Inc.                            | 198            | Potdevin Machine Co.                                     | 238              |
| Fuld Brothers, Inc.                                 | 3              | Powell & Co., John                                       | 204              |
| Gair Co., Robert                                    | Betw'n 70 & 71 | Powr-Pak, Inc.   | 177              |
| Geigy Agricultural Chemicals                        | 140            | Precision Valve Corp.                                    | 168, 169         |
| General Chemical Div., Allied Chemical & Dye Corp.  | 42, 129        | Prentiss Drug & Chemical Co.                             | 153              |
| Gillespie-Rogers-Pyatt Co.                          | 190            | Price, Dr. Donald  | 245              |
| Givaudan-Delawanna, Inc.                            | 104, 178       | Procter & Gamble Co.                                     | 44               |
| Goodrich Chemical Co., The B. F.                    | 196            | Puro Co., The  | 13               |
| Gross & Co., A.                                     | 32             | Pylam Products Co.                                       | 252              |
| Haag Laboratories, Inc.                             | 232            |  |                  |
| Harchem Div., Wallace & Tiernan, Inc.               | 72             |  |                  |
|   |                | Rapids Machinery Co.                                     | 250              |
|   |                | Refrined Products Corp.                                  | 4                |
|   |                | Regal Chemical Corp.                                     | 180              |
|   |                | Reilly Tar & Chemical Corp.                              | 143              |
|   |                | Rhodia, Inc.   | 99               |
|   |                | Risdon Mfg. Co., The                                     | 123              |
|   |                | Robeco Chemicals, Inc.                                   | 236              |
|   |                | Rohm & Haas Co.  | 134              |
|   |                | Roubechez, Inc.  | 82               |
|   |                | Roure-Dupont, Inc.                                       | Betw'n 86 & 87   |
|   |                | Schimmel & Co.   | 96               |
|   |                | Scientific Filter Co.                                    | 244              |
|   |                | Seil, Putt & Rusby, Inc.                                 | 244, 245         |
|   |                | Semet-Solvay Div., Allied Chemical & Dye Corp.           | 151              |
|   |                | Shanco Plastics & Chemicals, Inc.                        | 252              |
|   |                | Sharples Chemicals, Inc.                                 | 15               |
|   |                | Shea Chemical Corp.                                      | 27               |
|   |                | Shell Chemical Corp.                                     | 34, 144          |
|   |                | Simoniz Co.  | 16               |
|   |                | Sindar Corp.   | 112              |
|   |                | Smith & Nichols, Inc.                                    | 230              |
|   |                | Snell, Inc., Foster D.                                   | 227              |
|   |                | Solvay Process Div., Allied Chemical & Dye Corp.         | 25, 189          |
|   |                | Solvents & Chemicals Group, The                          | Facing 95        |
|   |                | Spraying Systems Co.                                     | 236              |
|   |                | Stalford & Sons, Inc., John C.                           | 66, 67           |
|   |                | Standard Chlorine Chemical Co.                           | 226              |
|   |                | Starr, Dr. Donald F.                                     | 247              |
|   |                | Steadman Co., F. W.                                      | 242              |
|   |                | Steccone Products Co.                                    | 252              |
|   |                | Stepan Chemical Co., The                                 | 108              |
|   |                | Sterwin Chemicals Inc.                                   | 200              |
|   |                | Stillwell & Gladding, Inc.                               | 247              |
|   |                | Stokes & Smith Co.                                       | 106              |
|   |                | Superior Rubber Mfg. Co.                                 | 250              |
|   |                | Swift & Co.  | 91               |
|   |                | Tamms Industries, Inc.                                   | 244              |
|   |                | Testfabrics, Inc.  | 247              |
|   |                | Thompson, Jr., Friar M.                                  | 247              |
|   |                | Thomssen, Dr. E. G.                                      | 247              |
|   |                | Ultra Chemical Works, Inc.                               | 93, 240          |
|   |                | Uncle Sam Chemical Co.                                   | 222              |
|   |                | Ungerer & Co.  | 3rd Cover        |
|   |                | Union Bay State Chemical Co.                             | Betw'n 176 & 177 |
|   |                | Union Standard Equipment Co.                             | 249              |
|   |                | U. S. Bottlers Machinery Co.                             | 120              |
|   |                | U. S. Sanitary Specialties Corp.                         | 219              |
|   |                | van Ameringen-Haebler, Inc.                              | 6, 146           |
|   |                | Van Dyk & Co.  | 253              |
|   |                | Varley & Sons, Inc., James                               | 155              |
|   |                | VCA, Inc.  | 184              |
|   |                | Velsicol Corp.   | 183              |
|   |                | Verley & Co., Albert                                     | 232              |
|   |                | Verona Chemical Co.                                      | 76               |
|   |                | Versenes, Inc.   | 116              |
|   |                | Victor Chemical Works                                    | 110, 111         |
|   |                | Vulcan Steel Container Co.                               | 224              |
|   |                | Warsaw Chemical Co.                                      | 247              |
|   |                | Warwick Wax Co.  | 130, 131         |
|   |                | Wax & Rosin Products                                     | 137              |
|   |                | Welch, Holme & Clark Co.                                 | 98               |
|   |                | West End Chemical Co.                                    | 12               |
|   |                | Westvaco Chlor-Alkali Div.                               | 100              |
|   |                | Westvaco Mineral Products Div.                           | 23               |
|   |                | Windsor Wax Co.  | 218              |
|   |                | Wisconsin Alumni Research Foundation                     | 236              |
|   |                | Wurster & Sanger, Inc.                                   | 243              |
|   |                | Ziegler & Co., G. S.                                     | 240              |
|   |                | Zinsser & Co., William                                   | 228              |

## Cale Ends

**C**SMA up to its ears in market surveys is also bursting out at the seams as its 41st midyear meeting gets underway at the Drake and two other nearby hotels on Chicago's lake front. A record turnout for the mid-year gathering is predicted to hear the results of the insecticide, aerosol and brake fluid surveys, and papers, panels and other discussions.

\* \* \* \*

Famous Lighthouses of America! Replicas of wood engravings of famous old American lighthouses which have appeared as a series in the advertising of Niagara Alkali Co. during the past year have been reprinted in booklet form. The six illustrations are printed on fine paper, each matted for framing with explanatory caption on the mat. If you're lucky, you might snag a set of these old prints by writing direct to Niagara Alkali at 60 East 42nd St., N. Y. 17. Don't tell 'em we sent you!

\* \* \* \*

Maybe the can boys have found the answer to corrosion in liquid detergent cans. For some time, it's been an open secret that corrosion at times played hobs with metal cans containing liquid detergent, especially at and near the closure. Now, we hear, they're working on a plastic spout and closure which eliminates this problem. Cans for liquid detergents are one of the "hottest" items in the can business, we are told. Lots of new products in the works or about to be introduced.

\* \* \* \*

Want to know how to lay and maintain a rubber floor? Well, the Rubber Manufacturers Assn. has just issued a free folder giving a complete step-by-step method for installing a rubber tile floor. It tells how to lay out the floor pattern, how to install the tile and how to maintain it when down. A very effective piece of promotion for rubber tile flooring. If you want to see a copy, the Rubber Flooring Division will send you one. Write them at 444 Madison Av., New York, 22.

\* \* \* \*

Because she needed a bath badly, a woman admitted shoplifting a bar of soap from a Columbia, S. C., department store recently. The hard-hearted judge didn't give a hoot whether the lady needed a bath or not and proceeded to fine her \$15.50 when she was haled into his court.

\* \* \* \*

The inside story of how Colgate happened to change to plastic dome on "Rapid Shave" aerosol shave cream goes like this. Joe McConnell, Colgate prez dropped into a Texas drug store and noticed that many of the plastic tops were missing from the "Rapid Shave" cans. He asked the druggist, "how come?" The druggist pointed out that

the plastic domes look like the turrets on the toy tanks of the neighborhood's kids, who were swiping them. Back in J. C., Mr. McConnell called a hurried conference of his packaging experts and thus a new top for "Rapid Shave" was born.

\* \* \* \*

It wasn't exactly a riot, but it came close. A mob of women were crowded around a counter in Macy's in N. Y. battling to buy something. When we crowded our way in, we found it was toilet soap the ladies were after,—Charles Antell toilet soap "with lanolin, chlorophyll and hexachlorophene." (And that about covers the waterfront.) Macy's were selling six 3 5/8 oz. bars of the soap for 29c and the ladies,—bless their rough and ready souls,—recognized a bargain when they saw one. It wasn't a riot, but it was close.

\* \* \*

Aerosole fur den verwohnten Kunden! This means "aerosols for discriminating customers." And it was part of an advertisement by the well-known Farbwerke Hoechst AG of Frankfurt in a recent issue of Seifen-

Ole-Fette-Wachse. And then the advertisement mentioned "insektizid aerosol" and "desodorans aerosol." Aerosols in German, no less. Shades of the German language purists of the Nazi days when words of foreign derivation were strictly verboten. Aerosole fur den verwohnten Kunden. Hot dog!

\* \* \* \*

Everybody is hopping on the aerosol insecticide bandwagon! Latest entries are those of Swift & Co. and Simoniz Co., both of Chicago. These in addition to recently announced "Raid" of S. C. Johnson & Son, heretofore exclusively a floor wax producer. Johnson's new aerosol insecticide, "Raid," in 12 and 14 ounce cans was set to be test marketed in St. Louis. However, word leaked that Simoniz, Johnson's arch rival, was planning the same thing, at the same time, and in the same city, so Johnson called off its test there and shifted to several southern cities.

Chase Products Co., Maywood, Ill., is filling the Simoniz aerosol insecticide, while Aeropak, Inc., Chicago, is doing the job for Swift.

It's all up to the bugs, now, which the insecticide industry is hopping will be plentiful—likewise the customers.

## Near miss!



**I**n advertising, misses of any kind, near or otherwise, are no good! For industrial advertising you can cut your misses away down by using business papers. No waste; low cost. And if it be the field of soaps and detergents, insecticides, disinfectants, aerosols, floor products, automotive chemicals, janitor supplies and the like which you want to reach, you can hit the market with real impact by advertising in

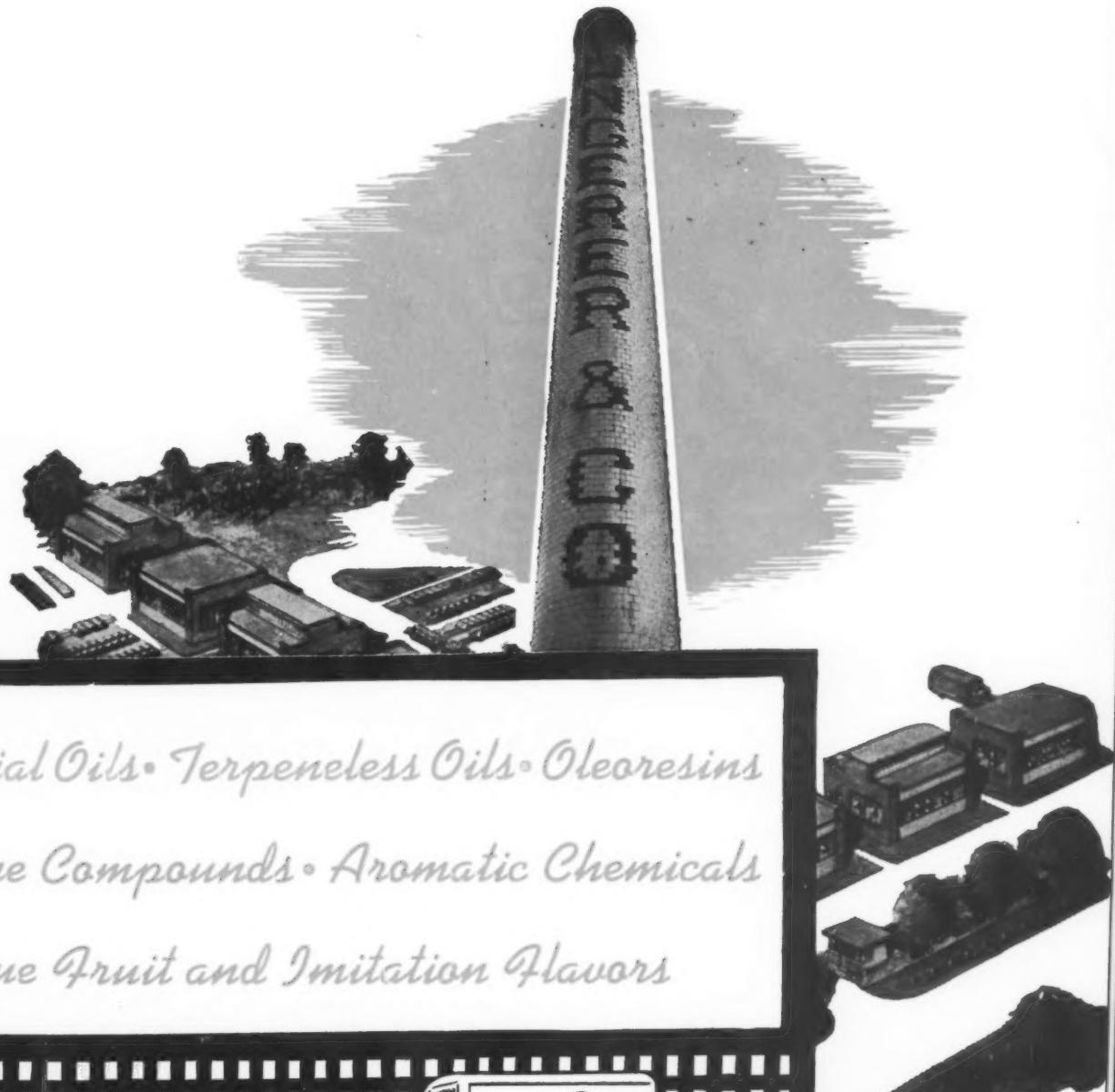
## SOAP and Chemical Specialties

254 W. 31st Street

New York 1, N. Y.

SOAP and CHEMICAL SPECIALTIES

# *the House of Ungerer*



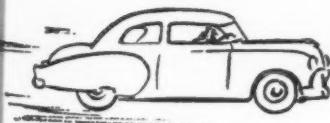
*Essential Oils • Terpeneless Oils • Oleoresins*

*Perfume Compounds • Aromatic Chemicals*

*True Fruit and Imitation Flavors*



*Ungerer & Co.*



161 Avenue of the Americas • New York 13, N. Y.  
Plant & Laboratories, Totowa, N. J.  
Chicago • Boston • Philadelphia • St. Louis • Atlanta • Los Angeles

## Tale Ends

**C**SMA up to its ears in market surveys is also bursting out at the seams as its 41st midyear meeting gets underway at the Drake and two other nearby hotels on Chicago's lake front. A record turnout for the mid-year gathering is predicted to hear the results of the insecticide, aerosol and brake fluid surveys, and papers, panels and other discussions.

\* \* \* \* \*

*Famous Lighthouses of America!* Replicas of wood engravings of famous old American lighthouses which have appeared as a series in the advertising of Niagara Alkali Co. during the past year have been reprinted in booklet form. The six illustrations are printed on fine paper, each matted for framing with explanatory caption on the mat. If you're lucky, you might snag a set of these old prints by writing direct to Niagara Alkali at 60 East 42nd St., N. Y. 17. Don't tell 'em we sent you!

\* \* \* \* \*

Maybe the can boys have found the answer to corrosion in liquid detergent cans. For some time, it's been an open secret that corrosion at times played hobs with metal cans containing liquid detergent, especially at and near the closure. Now, we hear, they're working on a plastic spout and closure which eliminates this problem. Cans for liquid detergents are one of the "hottest" items in the can business, we are told. Lots of new products in the works or about to be introduced.

\* \* \* \* \*

Want to know how to lay and maintain a rubber floor? Well, the Rubber Manufacturers Assn. has just issued a free folder giving a complete step-by-step method for installing a rubber tile floor. It tells how to lay out the floor pattern, how to install the tile and how to maintain it when down. A very effective piece of promotion for rubber tile flooring. If you want to see a copy, the Rubber Flooring Division will send you one. Write them at 444 Madison Av., New York, 22.

\* \* \* \* \*

Because she needed a bath badly, a woman admitted shoplifting a bar of soap from a Columbia, S. C., department store recently. The hard-hearted judge didn't give a hoot whether the lady needed a bath or not and proceeded to fine her \$15.50 when she was haled into his court.

\* \* \* \* \*

The inside story of how Colgate happened to change to plastic dome on "Rapid Shave" aerosol shave cream goes like this. Joe McConnell, Colgate prez dropped into a Texas drug store and noticed that many of the plastic tops were missing from the "Rapid Shave" cans. He asked the druggist, "how come?" The druggist pointed out that

the plastic domes look like the turrets on the toy tanks of the neighborhood's kids, who were swiping them. Back in J. C., Mr. McConnell called a hurried conference of his packaging experts and thus a new top for "Rapid Shave" was born.

\* \* \* \* \*

*It wasn't exactly a riot, but it came close. A mob of women were crowded around a counter in Macy's in N. Y. battling to buy something. When we crowded our way in, we found it was toilet soap the ladies were after,—Charles Antell toilet soap "with lanolin, chlorophyll and hexachlorophene." (And that about covers the waterfront.) Macy's were selling six 3 5/8 oz. bars of the soap for 29c and the ladies,—bless their rough and ready souls,—recognized a bargain when they saw one. It wasn't a riot, but it was close.*

\* \* \* \* \*

**Aerosole fur den verwöhnten Kunden!** This means "aerosols for discriminating customers." And it was part of an advertisement by the well-known Farbwerke Hoechst AG of Frankfurt in a recent issue of Seifen-

Ole-Fette-Wachse. And then the advertisement mentioned "insektizid aerosol" and "desodorans aerosol." Aerosols in German, no less. Shades of the German language purists of the Nazi days when words of foreign derivation were strictly verboten. *Aerosole fur den verwöhnten Kunden. Hot dog!*

\* \* \* \* \*

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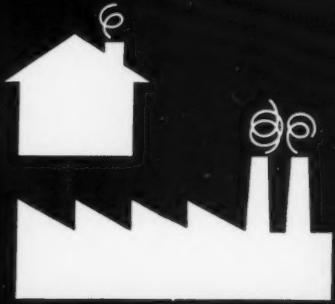
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*Ungerer & Co.*

161 Avenue of the Americas • New York 13, N. Y.  
Plant & Laboratories, Totowa, N. J.  
Chicago • Boston • Philadelphia • St. Louis • Atlanta • Los Angeles

Now you can give a pleasant fragrance to  
**household and industrial detergents for less than**  
**3¢ a gallon**  
or 50¢ per 100 pounds



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